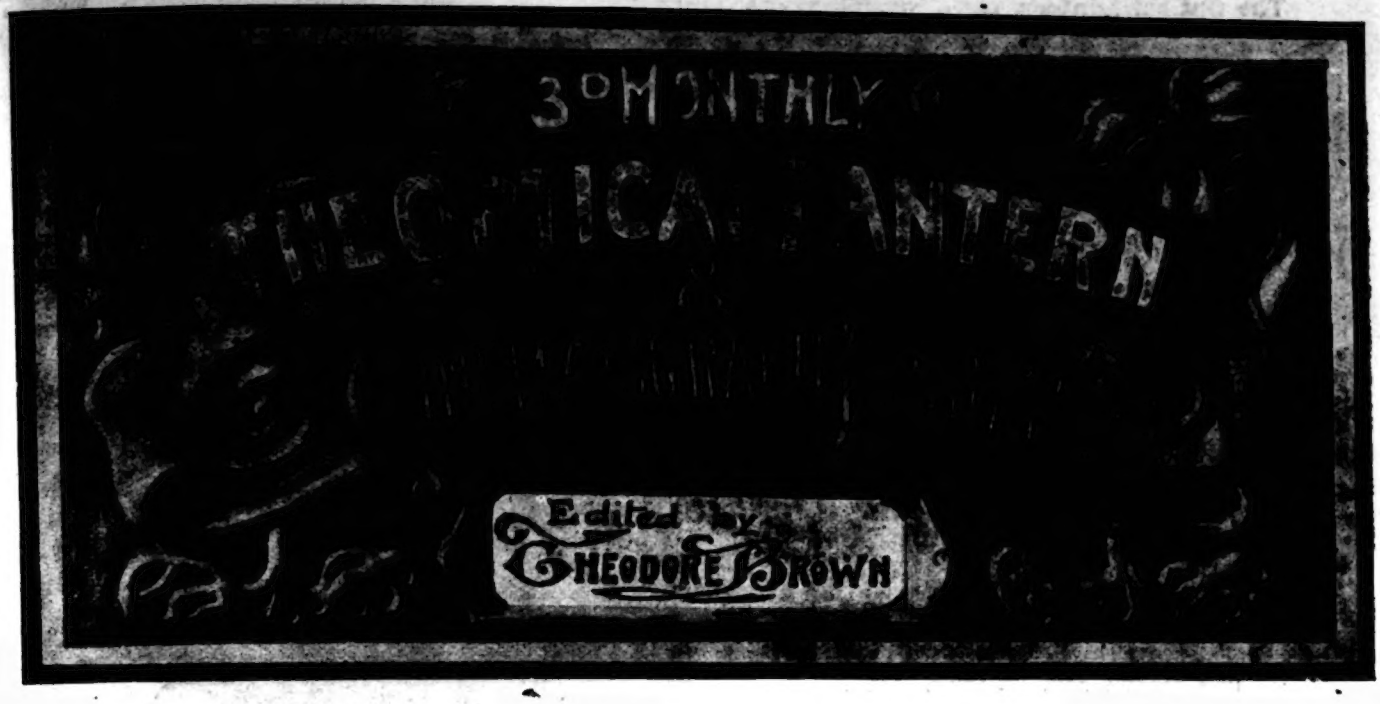

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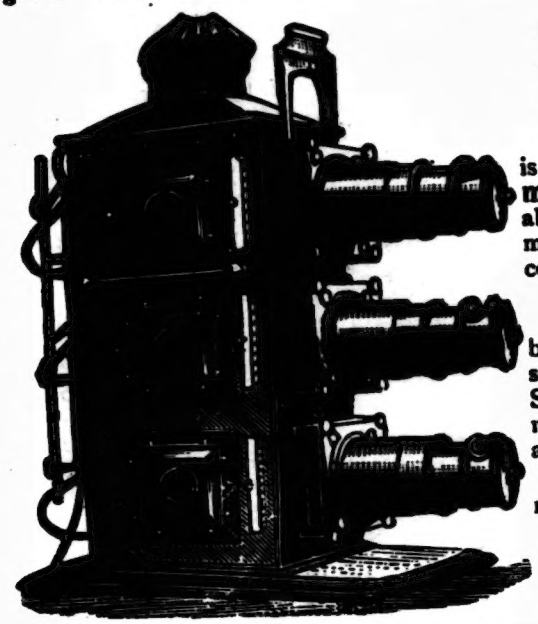

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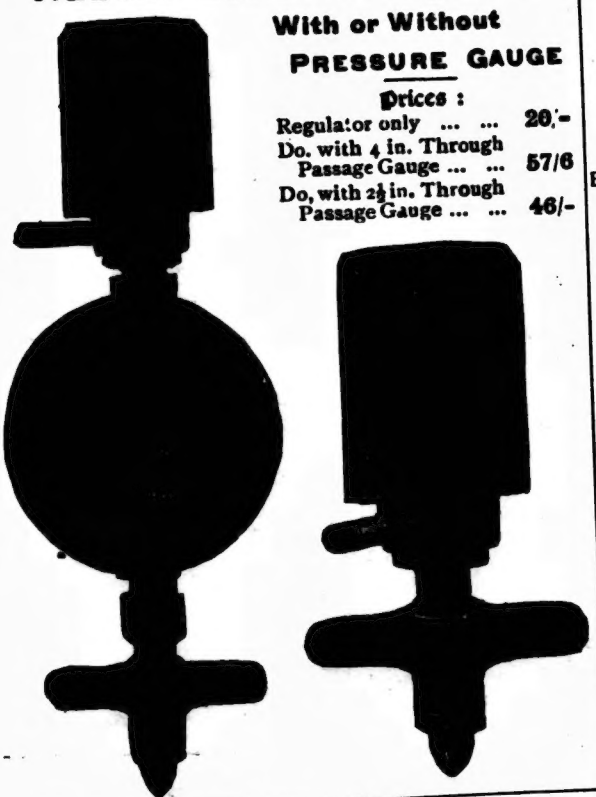

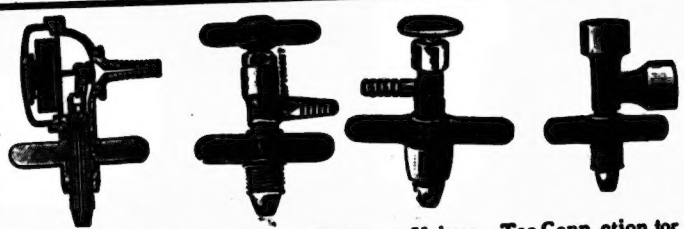

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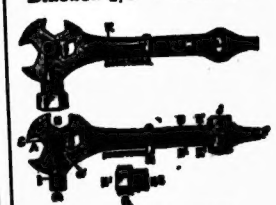

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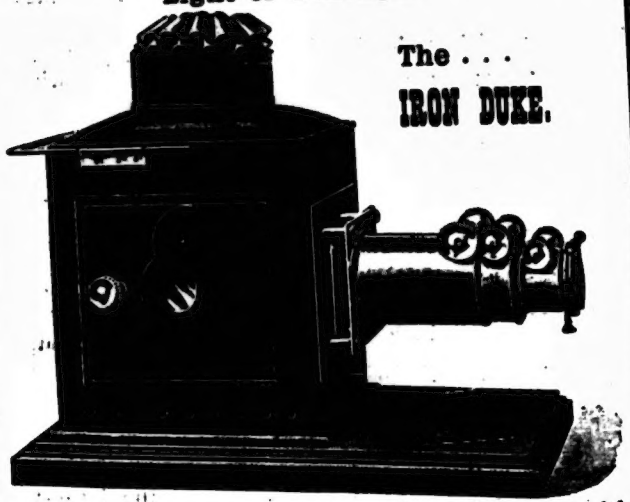

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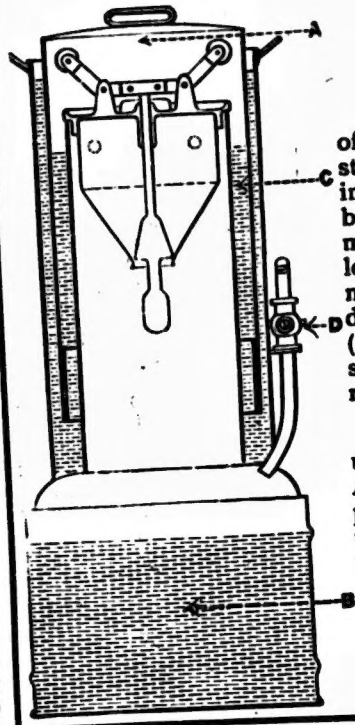

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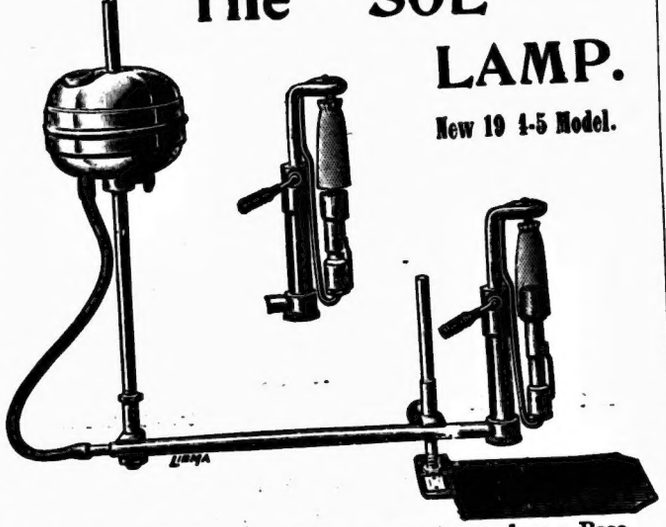

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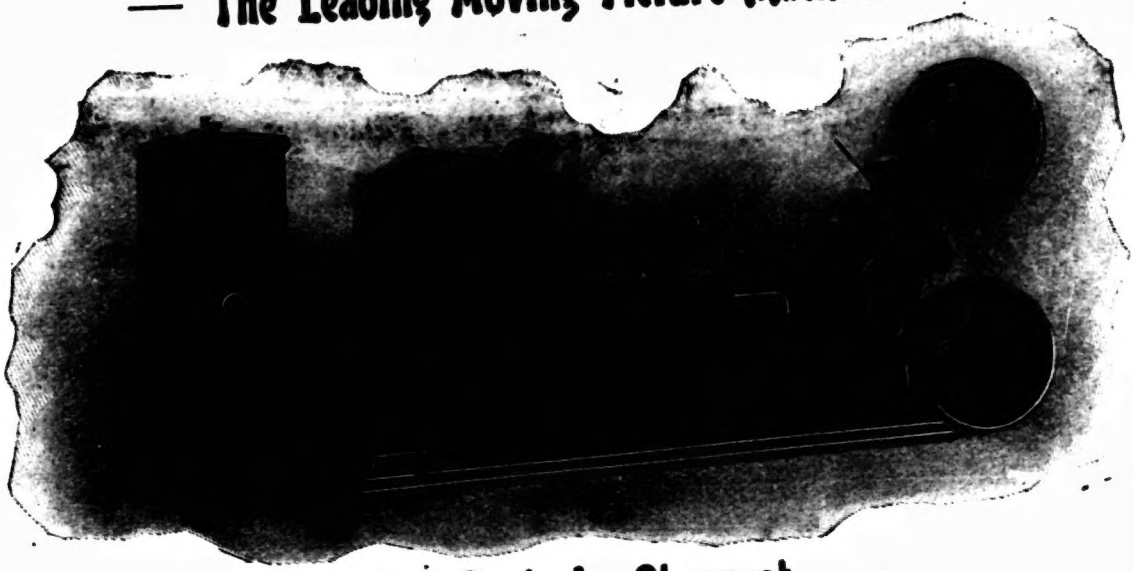

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WE do not wish to occupy valuable space in referring to our own work, but we venture to think readers will be interested to know how the first number of the new series was received. Briefly, we may say the reception has been one of voluntary and unqualified approval. Some of our advertisers have already communicated to us their satisfaction in the returns from their announcements; and the readiness with which other firms are coming forward with their co-operation, evinces their appreciation of our November issue. The copies printed were quickly disposed of, and we had to reprint in order to keep a supply for future use. The only dissatisfaction we have, is that the Secretaries of Societies have not yet fully realised the value of this Journal as a medium through which they may make known the order of their winter programmes, proposed competitions, and future lantern meetings. We trust they will not in future fail to send along any communication calculated to interest those engaged in all matters pertaining to the Lantern and Cinematograph.

Realism is the first necessity for a popular film but even the most enthusiastic film maker does not wish for the *contretemps* accorded to the well-known Chicago subject maker Colonel W. N. Selig last month. Ever on the *qui vive* for a sentimental subject he decided to picture a thrilling western stage coach "hold-up" in the good old fashioned style. After obtaining the paraphernalia, such as a genuine mail coach, with a picturesque company of occupants and some determined looking imaginary bandits, he selected a canon in the turn of the road on the old Leadville trail in Colorado where many a successful "hold-up" had taken place in the 70's. With the ardour of a clever stage manager, rehearsals were held and the company carefully drilled in their parts. The coach suddenly appeared in the bend, the occupants apparently chatting and full of merriment, when suddenly the bandits headed by the gallant Colonel brought it to the halt. "Hands-up" was quickly responded to, and to make it even more striking, a boy at the back of the coach jumped down and ran for dear life, pursued by robbers' who, firing blank cartridges, stretched him to the ground, apparently dead.

So far, so good, and the rehearsal was all that could be wished, but the unforseen frequently happens. Mr. F. C. Atkins and party including several ladies were on a visit to Colorado Springs and hearing shots told their driver to hurry and see what was happening. He had just regaled them with some of his choicest tales of the dreaded locality. Suddenly the rehearsal burst into view. There lay the boy with the bandits still blazing away. Prompt to lend a willing hand, Mr. Atkins whipped out a pistol and his driver equally indignant did the same, but their cartridges were not blank. Colonel Selig, who was well to the fore, uttered a yell and his arm dropped to his side and another bullet went neatly through his hat. "When scoundrels go to shooting unarmed boys it's time to butt in" said Mr. Atkins, and he continued peppering the amazed bandits,

although Colonel Selig, dancing up and down from the pain of his injured arm, cried "Get out! Stop shooting—it's only a joke." Mr. Atkins, however, could not see the joke—it was all too serious, and not until several of the occupants from the coach ran up and convinced him that they were "acting" could he be persuaded to stop firing at the robbers, who for the most part had taken cover in the trees. Order and explanations followed, but a certain uneasiness existed when the scene was later gone through in front of the camera, and the amateur bandits listened suspiciously for other tourists.

Never have we seen views which kept the spectators in such wrapt attention as the series exhibited by Captain Scott, who has just returned from the Antarctic Expedition. Whoever took them had no mean knowledge of the art of photography. Of course, the rarified and clear atmosphere, the deep colour of the seas and the fleecy nature of the clouds, gave every help to the man with the camera, but what struck us as deserving of mention was the artistic selection of just those pieces of unexplored nature which make the most effective slides. These views, combined with Captain Scott's aptitude for delivering a straightforward and interesting account of his three years wanderings, make his most attractive lecture a feature for the season, and we commend the Exploration Committee on having acquired the services of an artistic and capable photographer to accompany the expedition.

Some extraordinary microscopic wonders have been brought to light by their enlargement and projection on the screen. The result of an interesting series of experiments has recently produced many new curious facts. For instance, who among us would think that tears which have always been associated with grief have quite a different form of impregnation when turned into tears of joy, that is to say, a hearty laugh producing a moisture of the eye, or a tear of anger, has an entirely different form of crystallised salt to the tear of great grief. This has been proved by allowing a trifling drop of moisture to fall on a glass slide, permitting the water to evaporate and the result of the minute deposit of crystals when magnified and thrown on the screen is truly marvellous.

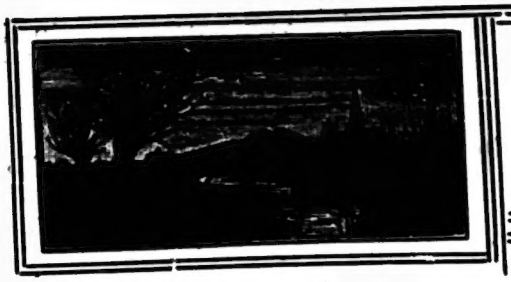
To carry the matter still further we all know how sudden changes affect us, the man in anger whose blood seems to boil until his skin shows perceptible change; the sudden fright in which black hair is turned to white; a sudden flush of brilliant light and the change in the appearance of the eye; the sudden fear and what is termed "goose-flesh" changes the appearance of our skin. These are all noticeable and every day occurrencies, but the lantern and microscope have revealed many other changes, and we look for new and strange developments in what have up to the present been imperceptible changes in our bodies.

THE ONLY COLOURED FILM IN ENGLAND.

Mr. T. J. Wrst is the happy possessor of the only coloured copy in England of the now celebrated film, The Trip to the Sun, the opening scene of which we reproduced last month. The film arrived from Paris on November 18th, and was exhibited by Mr. West on the evening of the same day, at the County Hall, Salisbury. This clever production, otherwise known as Whirling the Worlds, is much improved by the combination of tints carefully applied by the French artist, whilst the otherwise glaring whiteness of the higher lights are subdued, making the whole thing more agreeable to the eye. On the whole, we consider the series about equal in quality and conception with its companion subject, The Trip to the Moon.

In Scene 16, Through the Clouds, a very curious effect is produced, as the train is represented gliding through space towards the sun. The train, which is really stationary on the screen, appears to be swiftly moving upwards to the left. This is produced by a panoramic background on which the clouds are painted, being passed in panoramic order to the right. Whilst gazing at this projection from the back of the hall, it made one feel as though the hall itself moved on a central pivot from right to left. A similar effect to this we have sometimes noticed from the interior of a stationary train when another train was passing. The stationary train, from the window of which we were looking, seemed to be moving, and it could only be discovered that we were still at rest, when the other and moving train had passed by. Such an illusion accompanies the sixteenth scene of The Trip to the Sun.

BRITISH MUSEUM



AN INCH OF NEGATIVE.

By J. Page Croft.

AFTER some ten years endeavour in pictorial photography, I have come to the conclusion that a very large proportion of photographers would be fully qualified to do pictorial work, were their knowledge on the art side side of the question equal to their technical ability.

This conclusion was forcibly brought home, by the inspection of a number of prints shown me by a lady who had recently returned from a tour in Southern Europe. The prints were on P.O.P. and very highly burnished. Now I have no wish to gibe at polished P.O.P prints, but as my photographic inclinations are largely on the pictorial side, I wish that any remarks I make shall be taken as merely applying to this phase of the question. The views were from films taken with a panoram camera, and the foreground chiefly consisted of the orthodox group of male and female tourists in the usual panamas of varied shape.

There is of course no reason why the different friends should not have been "snapped" on such an occasion, such reproductions becoming of increasing interest with the flight of years, and tending to bring back to memory pleasing reminiscences of happy hours, in less pleasing moments. But as many of the tourists were not of my acquaintance, it was the pictorial possibilities that excited my greatest interest.

The backgrounds were mostly of mountains bathed in a mist of atmosphere, surrounded by dreamy clouds. The peeps of distance were so delightfully suggestive that I was quite envious of the fair owner's possession of these films, feeling that those few inches of background which she did not appear to value, could well be spared me, she retaining the figures in the foreground in which her interest was solely wrapped.

Nearly every inch of these distances was teeming with pictorial possibility, simply by straightforward enlarging, and I could but strongly recommend my lady friend to take care of those films and lay them aside till her ideas pictorial realised the great promise offered in the smaller portions. The assertive figures were plainfully sharp, and this served to drive attention to the more restful and diffused distance. 'Tis my favourite thought that it is a very poor negative that does not contain a square inch of something strong, and this square inch should be in itself sufficient to make a picture.

From such dimensions, I have made many a successful pictorial attempt up to the size of 15 by 12, and should probably have made them larger had I dishes and frames of size. It may be thought that so big an enlargement from so small a start would result in a very blurred print at the finish, but results will effectively prove that such is very far from the actual case. To begin with, biting detail is not now wanted, especially for pictures of large size, although in such enlargements the prints at the finish appear almost sharper than the small original.

This of course is not so actually, but the loss of detail and sharpness is out of all proportion to the immense gain of size in relative comparison. One of the most positive luxuries of the greatest aid in pictorial work is the possession of an enlarging lantern, and when such is not included in the outfit, the camera can be utilised as such, by simply making a rough shutter to a window, and cutting a hole just sufficiently large to cover the back of the camera, thus ensuring that all light entering the room shall pass through the lens.

Many a pleasant and productive hour can be spent in running the negatives through the enlarging lantern or camera under these conditions and numerous suggestions for

pictures obtained; for it is not always easy to guage the general effect of enlargements otherwise than by actual sight of the increased picture.

After having taken a rough proof from a negative, valuable object lessons will be gained by a quiet study of the proofs, in odd moments of quiet leisure. A capital plan for focussing attention to the strongest point, is to get two pieces of card, and cut in each an oblong opening. If one be laid over the other, each forming so to speak two sides of a square, they can be shifted about, and by increasing or diminishing the size of the opening, the choice of securing the most suitable portion is easily obtained; and the very act of cutting away the trivial and average lowering part, greatly enhances the strongest feature which is retained.

Frequently, after having enlarged an inch or so up to 15 by 12, feeling still dissatisfied with the result, I only print from a part of the negative, often no larger than a whole plate, even then of sufficient size to show, which by increased centralization further concentrates and strengthens that only which is utilised.

In a certain standard work the key to commercial success is given as "concentration," and the same advice may with equal truth be advised in matters of art. A work that contains too many objects of interest tends to decentalization, and causes the attention to wander and become weary, and by the constant striving for premier position of certain portions of the picture, competition is aroused and the interest scattered; such a subject should be cut up into two or even more parts and each will by reigning supreme in its own sphere, be a picture of worth, complete in itself. With simplicity for the foundation, interest for the structure, and motive for the ideal, pictorial failure should be unknown.

There is no desire to sermonise in the foregoing remarks, but pictorial photography *does* as it *should*, make a direct and increasingly stronger appeal to the head as well as the hand, which is intensified with the flight of ambition; so that as soon as the level road is comfortably reached, the head should be aided by extra attention, to help to find the path to the higher ground of pictorial success.

The moral of all this, if there is one, appears to be, to save all old negatives, and also the rough prints from same, which with the advent of wider knowledge offer greater possibilities; for, although such promises were always present, the due proportion of corresponding appreciation existed only to a minor degree, but with increasing recognition will come greater power, which will correctly appraise the value of the negative, not as a be-all and an end-all but merely as a stepping stone to pass over, and as a way to an end and not of necessity th one end alone.

To many who have dozens of negatives idly reposing in dusty boxes, the greatest incentive they could receive would be to be deprived of their cameras for a more or less lengthy period. Driven in desperation to return to these old negatives, many beauties would be discovered, and time occupied in merely producing further negatives without due aim, would be crystalised to greater earnestness and more definite invention; and such concentration must in itself alone, result in less bulk but more meritorious accomplishment.

A NOTE FOR SLIDE MAKERS.

In making lantern slides it sometimes happens with certain developers that there is a yellow stain in the gelatine. This is particularly strong if actinic light falls on the plate before fixation is complete. Any attempt to remove this stain will probably be detrimental to the slide, and as in any case prevention is better than cure, it is well to adopt a simple precaution. Add a small quantity of potassium metabisulphite to the ordinary fixing bath, and the slides will be perceptibly cleaner and brighter, and even if examined by white light during fixation will not develop stain.—*Barnet Photographic Record.*

HINTS ON CINEMATOGRAPH WORK

By the Editor.

WE have in preparation a series of articles on Cinematograph practice, from the taking of the picture to the exhibiting upon the screen. The first chapter of this series will be published in January; meanwhile the following hints may prove of service to some of our readers.

Film Winding.

When films are kept in the small round tins in which they are sold, it is sometimes found, when it is desired to run the film on to a reel for exhibition, that the roll is wound too tightly to allow of its being placed on the supporting pin. It is customary when

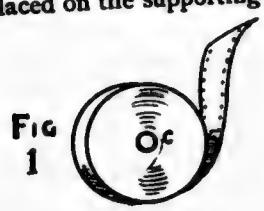


FIG 1

FIG 3

putting a roll of film on the support of a projector for the purpose of winding off, to first insert a washer tube, Fig. 4 on to the support, and then to place the

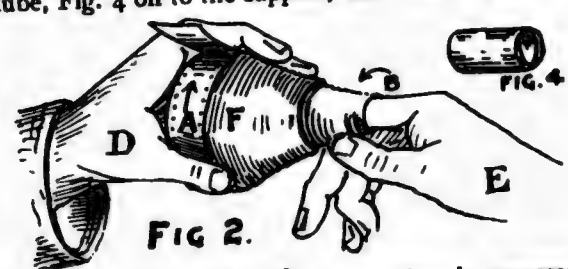


FIG 2.

FIG. 4

roll of film over this. This percaution is necessary to prevent the roll of film tightening, and finally griping the support to such an extent as to make further movement impossible. If a washer tube such as is shown in Fig. 4 is inserted, the film may tighten upon this as it turns, but the tube being slightly larger than the support it will turn upon the latter and allow the film to run with it till the entire roll is wound off. When the opening in the centre of a roll of film is too small to admit the insertion of the washer tube, as is the case shown in Fig 1 at C; the opening can be enlarged in the following manner. Take hold of the roll with the left hand as shown at D, Fig. 2 and then place the fore-finger of the right hand in the centre of the roll as shown in Fig. 2. The roll may then be drawn out horizontally, forming a cone shaped mass as indicated at F. Now grip with both hands, turning the left hand in the direction indicated by the arrow at A, and the right hand in the direction indicated by the arrow B. If the larger end of the roll at A, is allowed to slip between the fingers, whilst the right hand forces the film from right to left as shown by the arrow B; then it will be found that the roll is gradually increasing in size, and that the opening in the centre becomes enlarged as shown in Fig. 3. There will now be no difficulty in placing the tube Fig. 4, into the opening of C, Fig. 3, and finally the roll of film with the tube inserted, upon the support of the projector.

Joining Films.

Cement for joining films can be obtained at any of the Cinematograph Film makers. There seems to be some difference of opinion has to how much film should overlap in joining two pieces together; but we have found that about three sixteenths of an inch, or the space of one perforation is sufficient. The best way to proceed is as follows. Cut one end at the junction of the pictures, and the end of the film to be joined thereto three sixteenths of an inch from the junction of the first picture. Take a rule

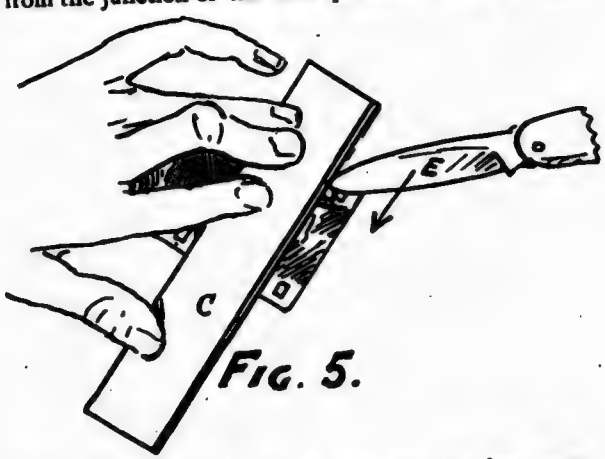


FIG. 5.

as at C, Fig. 5, and place it over the film last mentioned, with the edge of the rule in such a position that a penknife E may be taken, and the gelatine scraped away, in a straight line across the film in the direction of the arrow. There will now be a clear

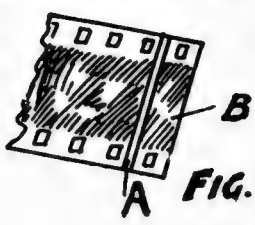


FIG. 6.

space of celluloid surface at A, Fig. 6. Now wet the fore-finger and moisten the remaining gelatine B. After a few seconds, this strip may be pulled from the celluloid support, so that their will be a piece of clear and clean celluloid at the end of the film measuring about three sixteenths of an inch. Having placed the other film to be joined in the position

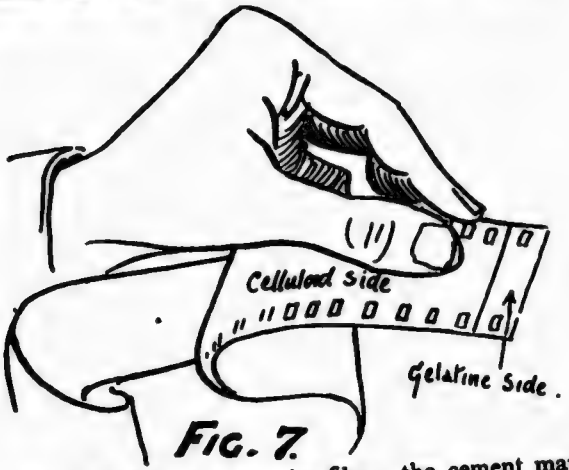


FIG. 7.

shown in Fig. 7 upon the film; the cement may be applied to both. It should be noticed that the film cut off at the junction of the las picture, is laid celluloid uppermost upon the film with the clear space extending, and the gelatine side upwards, as indicated in the cut. The gelatine however has been removed from this part, as already described. Immediately the cement has been applied, the top film, i.e., the one with the celluloid surface uppermost, is turned over from left to right, and laid upon the other. To ensure absolute registration before the

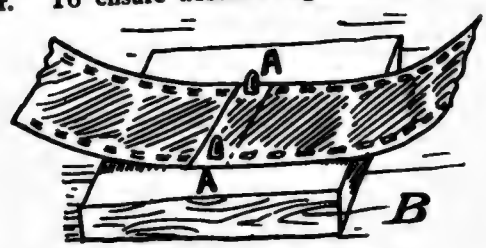


FIG. 8.

cement sets, which is very quick, a block, B Fig. 8, with two pegs, A-A, will be found exceedingly handy. These pegs are fixed to the wooden block, and are just far enough apart to receive the film through the perforations. There is no need to shave the ends of the films thinner, provided the gelatine is removed from one of them. It is a mistake to allow the ends to overlap more than we have specified Some operators allow a whole length of picture to overlap, but this produces a jerk, as the film is stiff at that point, and will not pass the procket wheels smoothly.

A long series of coloured lantern slides of remarkable character were shown at the Camera Club on the 14th, the production of Signor Inguinbert, and were exhibited through the kindness of Mr. Guy Waller, who is introducing them in this country. The scenes represented were the art treasures and architecture of the Vatican.

TIME is rapidly flying, and once again we are within an appreciable distance of the Christmas season, which is anxiously looked forward to by the young as one of merriment and enjoyment. It is however viewed by the animated photographer with certain feelings of apprehension and distrust, the latter part of the month of October and the early days of November being full of disappointments. owing to the absence of sun and the presence of fog. This has been vividly brought to our mind by the comments heard the other day from a number of operators who had spent the best part of two days in trying to secure a good picture of the visit of the King of Portugal to the Guildhall. In no less than three cases did we come across gentlemen with cameras relating the same disastrous experiences—that they had secured exceptional positions, taken tremendous trouble to get there, and, whilst having a splendid view of everything going on—in one case being within 14 feet of where the King of Portugal and the Prince of Wales were chatting together—there were no results obtained on the film. Circumstances like these tend to depress and dishearten the most enthusiastic operators, and we can only tender to them our sincere sympathy at the failure through no fault on their part. The number of topical subjects at the present moment is not by any means large, and we can quite understand their chagrin at losing one of the most important functions that has recently occurred.

AMONG the important events which took place during last month have undoubtedly been scenes connected with the Russian outrage which took place off the Dogger Bank in the North Sea. Of course it was too much to expect that the ubiquitous operator should be waiting in the North Sea for such an event to transpire, but we were very pleased with the photographs secured of the trawlers lying in Hull harbour, shewing the damage done, the jagged holes torn by shot and shell in the sides and fittings of the boats, also the portrait of the son of Captain Smith, the skipper of the "Crane," who was decapitated by a shell. These films proved to be of great interest, and met with a large and ready sale, as they were put on the

market within twenty-four hours of the boats arriving in harbour, when a wave of national sympathy was passing through the kingdom. It is films like this which show how important it is for the cinematograph business to keep abreast with the times.

MESSRS. GAUMONT & Co., we notice, in their recent advertisement in "The Era," ask the question, "Whom do the Trade look to to fill their programme?" We must say that this particular firm is most prolific in the manufacture of new and interesting films, both comic and otherwise. These gentlemen secured a most interesting and excellent film of the Funeral of the late Mr. Dan Leno, a beautiful picture being secured of the coffin being reverently carried towards the hearse; also a number of well-known music-hall friends who attended to pay their last respects to this most popular and highly-respected comedian. From all the halls where this film has been shewn, we gather that it was received with great attention, and that the general public were glad to have this opportunity of shewing their sympathy with the bereaved family. Amongst comics that they have, the one we prefer above all others is entitled His First Cigarette. This is a beautiful film, the great attraction in it being the marvellous acting of the two little children during the course of the cigarette being smoked. In only one or two instances can we remember anything so beautifully carried out as this particular film. For those who are looking for a rather bolder sort of comic, we might mention that The Fruits of Matrimony is one likely to appeal to showmen.

MESSRS. HEPWORTH & Co., were well to the front with the picture of the crippled trawlers at Hull, also the funeral of the victims, which was of excellent quality, and they, together with the Warwick Trading Co., appear to be the only firms who secured views of this incident. Another film of greater length, but which should be extremely useful to all exhibitors who run tours of any description, is called A Trip to Paris, in which the spectator is practically taken from Charing Cross, past the booking office, on to the train, down to Dover, across the Channel, and finally landed at a cafe in the Champs Elysees. This is of fine quality, some of the panoramas being exceedingly good. The marine views are very pretty, and will not only form a source of amusement to anyone who may see it, but will also afford considerable instruction with regard to our neighbours across the water. The latest film of theirs is entitled A Den of Thieves. This again is a film of different character to the preceding one, being full of exciting incidents and hair-breadth escapes.

MESSRS. PATHÉ FRÈRES, as well as the Charles Urban Trading Company, are placing on the market the latest film manufactured by Mr. George Melies, of Paris. This is an exceedingly long film, but at the same time in a number of parts it is extremely interesting, in fact it is safe to say that all films manufactured by Mr. Melies are of a high standard.

THE WARWICK TRADING COMPANY, LTD., are not left behind in any respect with regard to the Outrage in the North Sea, as we understand they did an extremely large business in the serial film they got out, giving as nearly as possible the actual incidents as they occurred. We understand that the demand for this particular film was unparallelled. Another film that we saw, entitled How the Russians Coal their Battleships at Sea, is of great interest, owing to its being practically unique. The process by which the sacks containing a ton of coal are brought to the stern of the iron-clad and dropped from a height of 15 feet to the deck, has, we believe, only been once tested by the Admiralty, when the picture was secured. Their latest film, however, is one in which they have secured representations of battle incidents taken in Japan, in which genuine Japanese soldiers are engaged. The weak point in most of the so-called faked battle pictures which have been put on the market up to the present, is that it is practically impossible, whoever the photographer may be, to secure men who will give the appearance of being what they represent. In this case there can be no doubt as to who the men are, as the well-known Japanese cast of feature is unmistakeable, in fact, to all intents and purposes, there may be an actual battle proceeding, as far as the camera is concerned. A Japanese General Officer and his staff are seen reconnoitering the position of the enemy; a battalion of the Japanese Guards are then shewn rushing up a precipitous cliff and assaulting the enemy's position; the next picture shews some skirmishing going on, with wounded Russians lying disabled on the field, and the film concludes most effectively with a number of Japanese wounded being conveyed to the rear for safety. We feel certain that this film will sell in enormous numbers, as it deserves, as it can only have been with the expenditure of a considerable amount of money that the Warwick Trading Company could have secured the services of such a number of Japanese troops in their own country, to say nothing of the trouble of securing the permission of the military authorities to the troops being so engaged. We feel certain that there is a great future in front of this film, especially as at the present moment there seems to be very little, if any, matter coming from the seat of war.

STEREOSCOPIC NOTES.

NON-STEREOSCOPIC FILM PICTURES.

STEREOSCOPIC FILM PICTURES.

A Set of Slides on Stereoscopy Free.

Messrs. Goerz, of High Holborn, have in preparation a lecture set on Stereoscopic Work, which they expect to have ready in February next. This set of slides will be supplied free to secretaries of societies who apply.

New Books on Stereoscopy.

Two works on Stereoscopy have just been issued from Gustav Schmidt (Berlin). One is entitled "Anleitung zur Stereoscopic," by Dr. W. Scheffer, 100 pages and 37 illustrations, price 2 marks 50 p.f.; and the other "Stereoscopic fur Amateur-Photographen," by C. E. Bergling, second edition, 58 pages with 24 illustrations, price 1 mark 20 pf.

Stereoscopy without a Stereoscope.

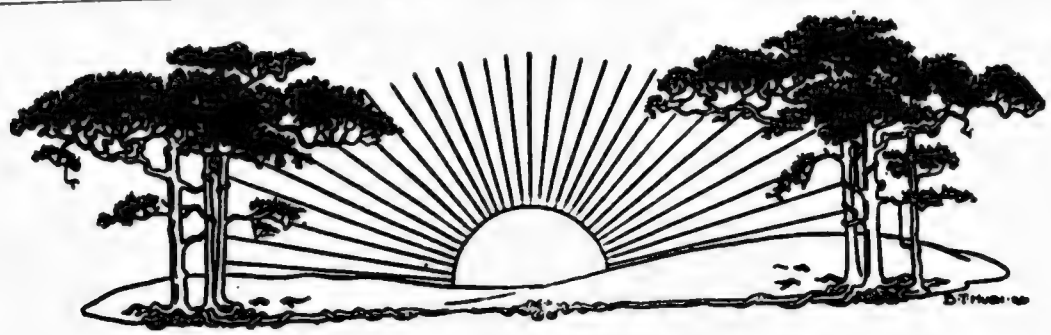
An invention of M. Violle, of France, was described at the last meeting of the Academy of Science, at Paris, which in principle is very similar to Mr. Ives' "Parallax Stereograms." In a camera furnished with two objectives, directly in front of the plate, is placed a grating, ruled with 100 lines to the inch. The negative from this contains the two sets of images. When this is looked at through a similar ruled plate, each eye sees only its respective set of dissimilar strips of view, with the result of stereoscopic effect in the mind.

Direct Stereoscopic Projection.

A paper will be read on this subject by Mr. Theodore Brown, at a meeting of the Optical Society, on December 15th. As a cinematograph will be used during the demonstrations, the meeting cannot be held at the Societies' room at Hanover Square, and arrangements are being made for the meeting to be held at the Northampton Institute, Clerkenwell. Secretary of the Society, Mr. W. Salt, 65, Hatton Garden.

Cinematograph Films with and without Stereoscopic Effect.

We reproduce above two pairs of pictures of the same subject. The top pair is from an ordinary cinematograph film taken in the usual manner, whilst the lower pair is from a stereoscopically taken cinematograph film. If these are examined in an ordinary stereoscope, it will be seen that the top pair, when combined, do not give any effect of solidity or relief, whilst the lower pair possess the property of stereoscopic effect in a perfect degree. By running the film, from which the lower pair of pictures have been taken, through an ordinary projector, stereoscopic effect is at once produced upon the lantern screen. The stereoscopic cinematograph attachment with which such films are taken is described under Patents on another page of this issue.



ON PHOTOGRAPHING WITH A VIEW TO THE PRODUCTION OF LANTERN SLIDES.

By Professor Golding.

ONE of the most useful branches of Photography, as well as one of the most popular, is the production of Lantern Slides, which enable their possessor to show the results of his labours to a large number of spectators, either in the privacy of a friendly gathering, or to a large public audience, by whom their merits may be better appreciated than can be the case when pictures on a small scale are presented for the inspection of one person at a time. The preparation of such slides affords a pleasant and useful pastime to the amateur photographer, and gives wide scope for the exercise of his skill in manipulation, for it must be remembered that when an object not more than three inches in diameter is magnified sufficiently to cover a surface of many feet, every small blemish, which would scarcely be noticed in the original, becomes enormously exaggerated, probably to a degree which causes it to be forced upon the eye of the spectator as a most obtrusive object. A line so thin and delicate as to elude observation altogether becomes on the screen a bar or a cord of considerable width and coarseness, and a surface which appeared to the eye perfectly smooth and uniform, is depicted as an exceedingly coarse and rugged one, whose irregularities resemble hills and valleys rather than anything else.

On the other hand, delicate detail and beauties which failed to impress the eye in the original, become revealed, and once more the thing of beauty becomes a joy, if not for ever, at least sufficiently long to impress itself on the memory of the beholder for many a day to come.

While any really good photographic negative may be reproduced as a lantern slide, the worker in this direction will soon discover that some are far better suited for the purpose than others, and that if the best results are to be obtained, the purpose for which it is intended should be kept in mind in the selection of the subject and in the treatment it is to receive, as well as in each step of the process of exposure, development, printing, toning, and every detail until the slide is completed and ready to be placed in the lantern. The shape and size of the negative, as well as its qualities of density, range of tone, angle of view included, contrast of light and shadow, and every other detail, must be taken into consideration. One thing is essential—the negative must be very sharply focussed. It is not necessary, or even desirable, that it should be hard or harsh, but every detail must be perfectly distinct, otherwise, when magnified, the picture will appear blurred to an extent which will render it quite unfit for presentation. A degree of softness which involves indistinctness or want of definition, wherever it may be admissible, is quite out of place here, and the lens to be used must be one which will bear the test and give an image equally sharp from centre to margin, if the resulting negative is to be suitable for its purpose. Indeed, there is often an advantage in using a lens capable of covering a larger plate than the one employed, in order that this uniformity of definition may be secured by the use of the central part of the lens only, without the necessity of employing an inconveniently small stop, and so unduly lengthening the exposure.

As the standard lantern slide only measures 3¼ by 3¼ inches, a quarter-plate negative is sufficiently large to include all that the slide can contain, though some operators prefer a somewhat larger one, say five by four, or even half-plate size, so that a margin may be allowed, and there may be some room for selection of the part most suitable for inclusion in the finished slide. The limit beyond which this is not desirable is, however, soon reached, for if the centre of view is not included, the picture will fail to satisfy the eye; and hence a slide cannot well be taken out of the corner of a large negative, but must be limited to the central part if it is to appear a natural representation of the scene to be depicted. On the other hand, the margin of a plate is liable to be slightly injured in taking into or out of the camera back, or in the processes of developing, washing, etc., and a little latitude is sometimes convenient, though as the quarter plate is an inch larger in one direction than the finished slide will be, a margin of half an inch is already secured at each end, but care must be taken to keep this in mind, so that the view to be included comes within the required limits in both directions, otherwise it may be found that the shape of the picture is not suitable for the square glass upon which it is to be printed, and that the latter will fail to include some of the desired details. Perhaps the best way of avoiding this is to cover the ground glass of the camera with a piece of cardboard, having in its centre an opening 3¼ inches square, corresponding with the position of the sensitive plate in the camera back. This will at once show the photographer how much of the view will be included in the finished picture.

These remarks mainly apply to the production of negatives for slide printing by contact, when the negative and the transparency to be produced from it must necessarily be of the same size. If it be proposed to make the positive through the camera, by reduction or enlargement, the negative may be of any convenient dimensions, though even in this case it is desirable that it should be as nearly as possible of the same shape as the slide, so that the portion to be included may come within the space which the picture is to occupy on the screen, which may be square, circular, or of any other desired shape.

The subject, whether landscape, building, or figure, should be well lighted, with suitable gradations of light and shade, and the shadows not so dense as to be quite opaque, nor the high lights so intense as to appear like snow or chalk when illuminated for projection. A flat, ill-lighted view, without contrast or gradation, seldom or never looks well upon the screen, and is exceedingly ineffective and disappointing. The highest light alone should be represented by perfectly clear glass in the finished slide, and all the shadows, even the deeper ones, should be more or less transparent, so as to present some detail. It must be borne in mind also that semi-transparent portions will appear much darker upon the screen than when viewed by the eye against a strong light or a white background, and that what seems in the transparency a very slight veiling will obstruct so much light as to appear a decided shade in the projected picture, and rob it of most of its brilliancy. Hence a thinner negative than that which produces the most satisfactory print on paper, or the transparency best suited for being viewed by transmitted light, will be found best adapted for printing lantern slides, provided it be full of detail, and that the sky, if that be included, as in the case of a landscape, be sufficiently opaque to be represented by almost, if not quite, clear glass in the resulting slide, unless clouds appear in it, when these must, of course, be accurately rendered. It seldom happens, however, excepting in sea views, or those of very light objects, that the same exposure will be suitable for clouds and for the remainder of the picture. Usually the sky will be very much over-exposed before any darker parts have received sufficient time to render them properly, so that one or other must be sacrificed. In this case the sky must be opaque in the negative, or must be rendered so by careful stopping or painting out, so that it may be perfectly transparent in the finished sky, the clouds, if required, being printed in from another and less exposed negative, or, perhaps, more easily supplied by using a print from such a negative as a covering glass, the remaining part of the latter being, of course, left quite transparent. The clouds so introduced must obviously be in harmony with the picture of which they are to form a part, being such as might be expected to be visible at the time and place depicted, and must appear to be lighted from the same direction, otherwise the unreality of the scene will be obvious to all but the

most careless observer, and the desired effect will be entirely lost; truth being in this, as in every other case, to be most carefully observed and most strictly adhered to.

In order to secure the desired qualities in the negative, it is necessary that the exposure should be ample, though not excessive, slight over-exposure being far more easily dealt with, and its effects modified in the later processes, than is possible where the exposure has been insufficient. If landscape or still objects are being photographed, so that a very rapid exposure is not necessary, rather a slow plate will probably yield a more satisfactory result, and will be more easily managed than a very rapid one, as it allows far more latitude, and the precise exposure to be given can be more readily modified without ill effect. The grain of the film will also probably be found to be finer than in the case of the more rapid emulsions. A plate somewhat thickly coated is, perhaps, to be preferred, other things being equal. When coloured objects are prominent in the picture, Orthochromatic plates, with or without a colour screen, are greatly to be preferred, and where the colours are very decided, as in case of brilliant flowers, or a glowing sunset, they may be regarded as indispensable. Even in cases where an ordinary plate is sufficient for the purpose in view, the Orthochromatic ones are said, by those most experienced in their use, to yield negatives not appearing to differ much from those taken upon ordinary plates, but capable of yielding lantern slides of far softer and richer quality.

The carbon processes are well adapted for the production of lantern slides of a high degree of excellence, in the hands of the skilful manipulator; and those who are accustomed to work with these tissues will find that they may be employed with great advantage, the emulsions used being semi-transparent, and yielding very delicate gradations of tone, as well as any shade of colour which may be considered most suitable for the subject to be rendered. The negative to be used with these processes, must, however, be much more dense, and have stronger contrasts than those needed for ordinary silver printing. A flat negative is apt to produce an exceedingly dull and unattractive lantern slide on a carbon film.

On the other hand, if the negative should be very thin or decidedly weak, it will probably yield a far better result on a wet, or even dry, Collodion plate, than on one coated with a gelatine emulsion; indeed many professional slide makers still prefer wet Collodion to any other medium for the production of their finest effects. If gelatine plates be preferred, those coated with chloride of silver emulsion are generally better adapted for use with thin or weak negatives than those which contain bromides. These chloride plates are much less sensitive than the others, and the film appears to be thinner, and is far more transparent.

An effect which should be very carefully guarded against in the negative intended for the production of lantern slides, is halation, or an apparent spreading of the light, and the production of a kind of halo around the margins of bright objects when viewed against a dark background. This is very noticeable in views of the interiors of buildings, around the edges of the windows through which a bright light enters. It is also frequently observed in outdoor scenes, where trees or the outlines of buildings are projected against the brightly lighted sky, and tends to obscure the sharpness of outline and to render it indistinct, a result which may attract but little notice in the negative, or a print from it, but which is greatly exaggerated and rendered painfully apparent in the magnified image upon the screen. It is due to reflection of light from the back of the plate, the film being sufficiently transparent to permit part of the light to penetrate and suffer reflection from the air when it reaches the under side of the glass. The rays of light thus reflected have, of course, also suffered refraction in passing through the denser medium, and consequently emerge in a direction slightly different from that in which they entered, causing an indistinct image to surround the margins of the objects depicted. This may be avoided by the use of plates which have been coated on the back with some substance such as caramel or burnt sienna, or other pigment of an orange yellow colour, which absorbs or quenches the rays which pass through the glass, and prevents their return. Such a coating is readily applied, and as readily washed off again before development, or plates ready coated can be obtained from the makers. It is stated that if the back of the glass is slightly ground, halation is found not to occur, even in the negatives of subjects most likely to produce it under ordinary conditions. The thin celluloid films

used largely for hand cameras also yield negatives free from this defect, the film being too thin to cause perceptible refraction of light rays passing through it.

Should the negative show halation, and no other be available, it is said that the defect can frequently be greatly reduced by carefully rubbing the surface of the film in the affected parts with a piece of soft linen moistened with alcohol or methylated spirit, and stretched over the tip of the finger. If this operation is carefully performed, a small portion of the film is rubbed away, and increased transparency given to that which remains, but it is obvious that a remedy of this kind should be applied skilfully, and with caution, lest the delicate film should be injured and the negative spoiled.

It is desirable that lantern slides should not be printed too rapidly or too close to a powerful source of light, unless the negative is very dense, and it is desired to reduce contrast. A gradual exposure at a greater distance from the light source will, in most cases, give a better effect, and will prevent the obliteration of delicate detail and gradations of shadow.

The amateur photographer who desires to preserve pleasant mementoes of the scenes of beauty which he has visited, of the wonders of nature, or the triumphs of art and human industry, and to enable others to share in his pleasure and profit, will find an endless source of enjoyment and of pleasant and useful occupation in his leisure hours in the production and display of lantern slides, and may, perhaps, be enabled to bring to light some hidden wonders of creative skill, or to perpetuate, for the benefit of those who are to live after him, the rapidly disappearing examples of the architectural triumphs of the past, or the relics of the life of our forefathers, which, in this utilitarian age, are daily giving way to the insatiable and inexorable demands of commerce, or of the manifold and prosaic needs of our daily life.

CINEMATOGRAPHY IN COLOURS.

ACCORDING to the *Photographische Chronik*, Dr. Miethe, of Berlin, has attempted to obtain cinematographic films in colours by the three-colour process, using for this purpose ordinary negative films sensitised with eosine, ethyl red nitrate with a small addition of chinoline red. The lens was worked at an aperture of F. 3 or F. 4, and the filters placed in a rotating sector in front of the film were moved synchronously with the same. The apparatus used for projection was built on the same lines, but the results showed but faint traces of colour and a "ghastly flicker." Dr. Miethe hopes to obtain better results by using a film three times the ordinary width, and placing the filters side by side.

UNIQUE PICTURES AT THE ST. LOUIS EXHIBITION.

AMONG the German exhibits in the St. Louis Exhibition (according to the Berlin correspondent of the *Standard*) are four series of colour photographs representing the culture of the vine on the banks of the rivers Rhone and Mosel, German forest cultivation, views of German villages, and the scenery of Lake Garda and the Southern Dalomite Mountains, each series consisting of about fifty pictures.

These have been executed, at the request of the German Commissioner for the Exhibition, by Dr. A. Miethe, Professor of Photographic Chemistry in the Charlottenberg Technical High School, and are intended to serve as examples of the advances recently made in Germany in the art of colour-photography.

For the projection of these pictures Dr. Miethe employs a special triple lantern of his own design, the illuminants being three powerful electric lamps, working with a current of from ten to thirty amperes. The condensors consist of a triple system of lenses, each of three parts, and the objectives have various focal lengths, the whole optical system being specially designed to transmit as large a portion of the light as possible, and to suit pictures of every size and description, while provision is made for protecting the slides from injury by the heat of the electric beam.

For the production of pictures of the highest quality attainable, Dr. Miethe and his assistant, Dr Traube, have devoted special attention to the improvement of the photographic plates, the object in view being to secure their permanence and a high degree of sensitiveness, with as accurate a rendering of colour values as possible. With this view they sought a new class of sensitising materials or pigments; and in the course of their experiments they made the discovery that the substance known as iso-cyanine possessed the desired properties in a very high degree. By the use of this agent they have succeeded in producing plates which are said to render the colour values in great perfection, and the pictures produced by these means may be expected to mark a very distinct advance in this branch of photographic art.

Chats with Trade Leaders.

MR. WHITE IN HIS OFFICE AT CLERKENWELL ROAD.

No. 2.—Mr. JAMES H. WHITE

(Of the Edison Manufacturing Co.)

WHEN I told a brother scribe that I was wending my way to Clerkenwell Road to interview the managing director of the Edison Manufacturing, Company, he said I had a tough job on, for, like Paddy's parrot, my subject was "a fine bird to think, but no talker." I found, however, that besides possessing a wonderful control over his thoughts, Mr. White *could* talk when his pet subject of moving pictures was on hand, and talk with a knowledge which interested and charmed his hearer. Possessed of the full history and facts dealing with inventions in every department of the business—no question could be asked but that a ready and appropriate answer was forthcoming. One, however, could easily understand the reason for this familiarity with the subject. As a boy he was at Edison's laboratory, and he has belonged to the advance guard of the Company ever since, helping in their hundreds of experiments and extraordinary developments. He managed the film department for eight years—a position now occupied by Mr. A. T. Moore, who was formerly in the electric department—a capable man, who is now making great strides in his new capacity.

"The general public over here, and even the trade, do not associate Mr. Edison's name with living pictures so much as with the phonograph and electric appliances. Why is that?" asked our representative.

"Although in 1887 Mr. Edison invented the first machine for photographic motion pictures, and has patented and manufactured fresh appliances ever since, we have not extensively pushed the products in this country," was the reply. "In 1902 the kinetoscope was brought over, since when many developments have taken place, and shortly we shall

cater in earnest for the English trade by putting on a man who will make films of British scenes, and introduce pictures which directly appeal to the English taste."

"But isn't the English taste a questionable quantity?" we asked.

"Emphatically No! Take the phonograph record: do the cake walks, vaudevilles, coon songs, etc., enjoy a lasting popularity over here? They are novelties, but good English songs, by known English singers, are more saleable, and so it is with films. Highly sensational pictures, depicted in foreign surroundings, have not the same possibilities as local scenes, which come right home to the spectator."

"And yet some of your sensational pictures have been big successes," we argued.

"Our greatest successes," was Mr. White's reply. "I consider our Train Robbery more successful in point of sale than any film made. But we have a new one of 960 feet, which is just as exciting and realistic. I have just sent my copy to Spain, or I would show you. It depicts all the varying scenes of a Bank Robbery.

"Yes, in Colorado, and a nice time your operator had," we broke in, giving other details.

"Why the film has only been over a few days--how did you know?"

Mr. White's searching glance forbade us referring to 'our representative on the spot,' and we meekly informed him that we possessed an American correspondent, and quickly changed the subject by asking for a few yarns of events which happened on his travels.

A PERILOUS POSITION.

SHIFTING THE CARGO.

"I've had many strange experiences," said Mr. White, "for although managing the department, when anything very special came along I took the views myself. I happened to be in China when the American fleet was in Hong Kong, and frequently going aboard with the officers, got to know Admiral Dewey, who as you know, is very democratic. Many were the pleasant excursions we had while in port. Shortly after my return to New York, Dewey's boat, the "Olympia," returned from its successes in Manilla. Like hundreds of press and camera men, I took a tug and tried to get near the ship, but the orders were that no one was to be allowed on board. However, presuming on my Chinese acquaintanceship, I got alongside and scrambled aboard, to be confronted by the second officer, who, turning to the admiral, who was in full dress, exclaimed: "Why if it isn't that long-legged photographer we met in Hong Kong."

"So it is," said Dewey, "but what on earth are we to do with him?"

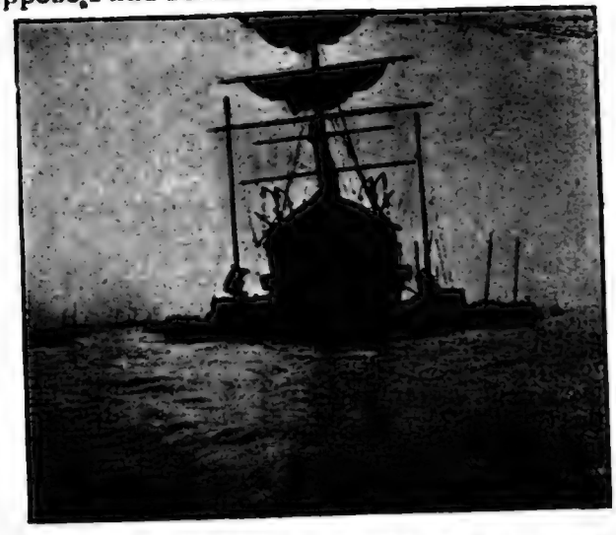
Imagine my feelings when the reply came back: "Throw him overboard."

"No," said the Admiral, "Let him come aboard. We'll see if he's got any new stories."

"And aboard I went, and obtained a splendid series of views, shewing the reception by the President and Committee." By-the-way, it might interest you to know I was the first to tour the world for motion pictures, accompanied by an Englishman—Mr. Fred Blechynden—who wrote the book 'Round the World with a Kinetoscope.' The tour cost

between three and four thousand pounds. We started from New York on June 9th, 1896, and returned June 18th, 1897. Our start was not auspicious, for our boat, the White Star liner 'The Coptic,' was wrecked at 3 a.m. one morning. My quarters were on deck, and remained fairly high and dry, and although we didn't know what might happen next, I thought of the main chance, and whilst all was chaos, visited the captain's bridge and the crow's nest, and took an excellent set of pictures. 'All's well that ends well,' and those pictures were splendid mementoes of a unique experience, and you can reprint some of the enlargements from the kinetograph films taken on the 'Coptic' directly after the storm, during its passage from San Francisco to Hong Kong. I had given a show in the cabin just before the wreck and a number of the Chinese steerage passengers looked through the windows and were seized with a kind of superstitious awe. They showed considerable animosity against me during the remainder of the voyage, and I was known as 'The White Devil' who caused the storm. We had the honour of giving an exhibition of the phonograph and kinetoscope before the Mikado, who had never before seen moving pictures, and it was indeed strange to watch the amazement of his courtiers, who put their hands behind the screen to lay hold of the figures, and seemed totally unable to comprehend the business. We were served right royally, and were asked to stay a week at the palace, and on the strength of this I got special permission for the troops to be manœuvred, and took photos of them. Many were our adventures on land. Once while taking views of the streets and temples of Canton, we only escaped an attack by throwing away our paraphernalia and running for dear life across the canal to the Island of Chameen, where we were protected by the Sikh police. We also had many strange experiences in the Mexican mountains, but I suppose I had better come back to trade topics."

TAKING THE DEAD OUT OF THE FORECASTLE.



HELD UP SEVEN MONTHS FOR REPAIRS.

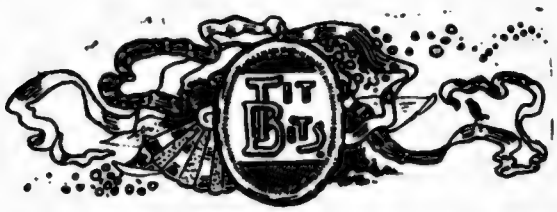
"Yes, we should like to hear about the future, Mr. White."

"I believe we shall see some remarkable developments. Take our own case. We have a most complete laboratory with seven or eight men constantly experimenting, regardless of expense, and new achievements must come. Mr. Ed. Porter, our chief camera man, too, is hard at work with new ideas and fresh studies, at our glass and iron studio situated on the top storey of our New York building."

"And yet you haven't found a substitute for the dangerous celluloid," we suggested.

"For twelve solid years this has been before us. We have used fibres, parchments, and I don't know how many hundreds of other materials. I believe one day we shall startle the world with a success in this much needed alteration, but up to the present, like many others, we have been doomed to disappointment."

Many other items did Mr. White dwell upon, but space will not allow; I came away, however, with the firm conviction that the trade will in future hear much more of the Edison Manufacturing Co., and that in Mr. James H. White they have an able and conscientious worker whose enthusiasm is unbounded.



MR. J. W. West of the Modern Marvel Co. leaves England in April next for New Zealand, where he is going on an Exhibition tour.

MESSRS, Newton & Co. of Fleet Street have been awarded three gold medals and one bronze medal for their optical lantern and slides at the St. Louis Exhibition.

THE New Century Company has received big receptions at Portsmouth and Aberdeen during the last few weeks, the cinematograms being right up to date and containing many novelties.

THE Church Missionary Society now has a man securing cinematograph pictures of "Typical Life of India." It is expected that a large series of films will be ready for use early in January.

THE Mutoscope Company at Fleet Street, are Exhibiting in their window a "Kinora" driven by an electric motor. The pictures shown are excellent, and attract a large crowd which never seems to dissolve.

THE South African War, Uganda, Switzerland, Egypt, and Italy, were the wide range of subjects taken for a lantern lecture by Mr. E. Pullman at Charltonville. Certainly variety is charming.

A CINEMATOGRAPH CAMERA has been patented in America, with which, it is said, it is possible to take either a series of negatives for animated photography or a single picture, whichever the operator desires at the moment.

MR. Du Pre gave a lantern lecture on India at the Conservative Club, Loughborough a day or two ago. His personal connection with the country and the excellent views of historical and famous sports made an interesting evening.

THE London County Council granted a music and dancing license to Earl's Court Exhibition with the proviso that strict supervision should be exercised over the character and titles of the pictures in the mutoscope machines.

ACCORDING to the *Daily Telegraph*; stereoscopic effect can be seen in ordinary single lantern projections; but this is utter nonsense, as anyone, who has had the slightest experience in stereoscopic work will know.

AT the South London Photographic Society Mr. A. Bedding has given a lecture, entitled: "A Ramble Round the Tower of London." The lecture is the result of many years work. Among the slides were views of many historical chambers and prison cells never before shown to the public.

MR. Thomas Barrasford's operator has taken pictures referring to the North Sea tragedy. They include the entrance to the Hull dock; a panorama of the twenty two trawlers damaged by the Russian vessels; the damaged engine room; and some of the survivors. They prove of great interest whereever shown.

MESSRS. Reeves & Sons, Ltd., Ludgate Hill are manufacturing transparent paints suitable for lantern slide colouring.

MESSRS. Walker & Company, Aberdeen, gave a cinematograph entertainment on the 16th ult., at the opening of the Parish Church Guild. There was a large attendance, and the views were much enjoyed.

STRANGE are the subjects illustrated by lantern slides. At a Protestant meeting at St. Helier's this month Mr. D. S. Hyslop took as his subject "Why I am not a Ritualist," and used a number of excellent pictures projected by limelight to enforce his point.

THE Star Cinematographic Company gave an excellent display of pictures on the 17th at the Northern Friendly Society's Hall. The programme was varied and attractive, and much interest was evidenced in the up to date representations of the struggles between Russia and Japan.

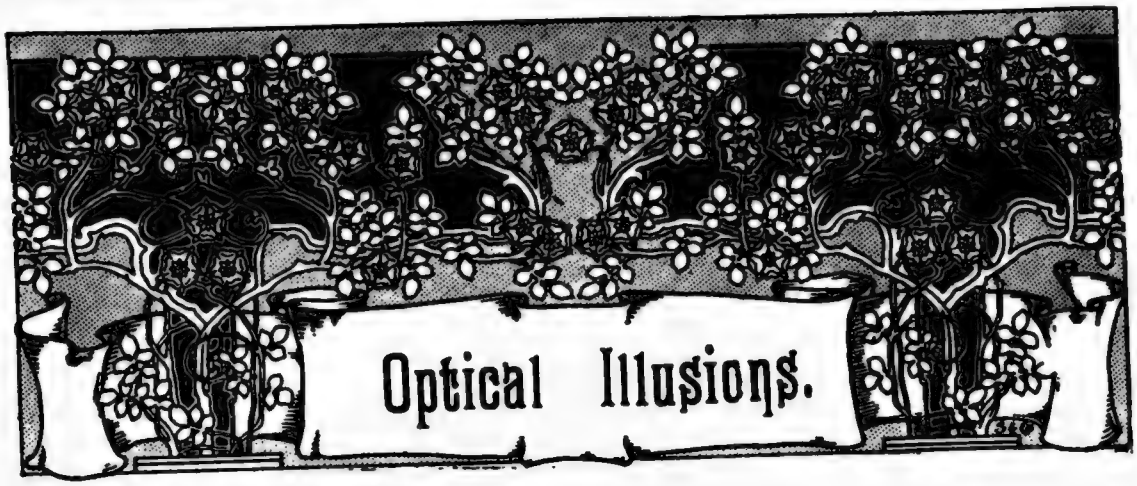
MR. T. G. Hibbert gave a very interesting lecture on Lantern Slide Making with demonstrations at a meeting of the Hillsborough and District Photographic Society, No. 9. In addition to his own slides, others which gained prizes in the "Lamson Notes" competition, were used.

"THE Building of Ships in Peace and War" formed the subject of a lecture delivered by Mr. John A. Mitchell of Jarrow, at the Connaught Hall, Blachett Street, Newcastle. Mr. Mitchell is one amongst many who praise the great value of cinematographic pictures as a forcible means of illustrating a lecture.

MR. Walter D. Welford, F.R P.S. delivered a lecture entitled "Rising to the Occasion" at the Salisbury Club on the 22nd inst. After reading a short paper in which he gave some instructions of an elementary character, for the successful production of pictoral effects; a practical demonstration was given of the carbon process, single and double transfer, followed by a display of lantern pictures by the lecturer and the lecturer's wife, the lantern being operated by Mr. F. Watson.

LANTERN SLIDE EXHIBITION. Under the auspices of the photographic section of the Chester Society of Natural Science, Literature and Art an exhibition of prize and selected lantern slides was given in the Museum, on Friday, November 18th, Dr. Stolterfoth presided, and Mr. Newstead gave an interesting lecture on the subject. The series of slides numbered 61 and amongst them were some very charming pictures, a number of which had won medals.

HOW cinematograph pictures of country scenes are obtained, say the *Morning Post* was shown at Barnet County Court yesterday (Nov. 22nd) in a case in which William George Barker, Autoscope Company, Gray's Inn Road, was cast in £5 damages and costs for trespassing at Rowley Green Farm, Arkley. Mr. Poole, solicitor for Mr. King, farmer, stated that Mr. Barker drove up with two vanloads of people on Sept. 21, entered a field, untethered the horses, and trod down the aftermath. No permission had been given. Defendant admitted that he had done wrong in entering the field, but thought the case would be met without going into court by paying £1 to a local hospital. He had only two waggonettes and thirteen persons all told. They took eleven or twelve thousand photographs, but did not roam over the whole fifteen acres in the field.



No. I.

By EDMUND H. WILKIE, *Of the late Royal Polytechnic Institution.*

To the number of the Lantern Journal issued on September 1st, 1894, just over ten years ago, the writer had the honour of contributing the first of a series of papers describing "Optical Illusions" as applied to the purpose of entertaining mystery.

These were so favourably received, that at the suggestion of Mr. Hay Taylor, then editor, they were continued for the unusual period of eight consecutive months.

Although primarily intended to form an entertaining addition to the columns of the journal, it was found, as the scheme unfolded, that a more serious aspect was developing, and that organisers of bazaars, theatrical performances, and showmen generally, were finding the matter contained in the articles of material assistance in the preparation of their exhibitions.

The writer's attention was first directed to this phase of the matter by the numbers of letters received from those desirous of obtaining further information or fuller details, and which have continued intermittently to the present time.

Ten years is said to be the length of one generation, and as the generation which generously accorded so flattering a reception to the first series of these articles has advanced ten steps along the path of time, presumably leaving a younger one in its place, to whom these effects would be new, it appeared to the respected editor of these columns that the time had arrived when he could comply with the frequently and generally expressed desire for the republication of "Optical Illusions" in a revised and possibly extended form.

With this slight preface, let us at once enter upon our subject.

If we search back far into the past, in fact past the commencement of history, into the borderland of legend, we find that there is reason to believe that many of the principles of optics, as applied to illusions, must have been known to certain sections of the world's inhabitants; but this knowledge was most jealously guarded, and used only for the purposes of fraud and deception. Many have supposed that the use of concave mirrors was known to the Ancient Egyptian priesthood, and that it was by this means that their deities occasionally made themselves manifest to the initiated; but we have no absolute data to found upon in this matter, it is pure conjecture.

The same is the case with most of the illusions used by so-called wizards and necromancers in the middle ages; the accounts are so vague and unsatisfactory that I have decided to pass them by, and deal only with those which have been produced more recently, and of which we have more definite particulars.

It is, in many cases, extremely difficult to draw a hard and fast line of limitation between optical illusions proper, and mechanical illusions, especially when used for stage purposes, as many mechanical illusions requiring no special optical apparatus, yet depended upon principles which might easily come under the head of optics. To illustrate my meaning I will tell you how a stage ghost was produced when this century was young. We know that the ghost of his father appears to Hamlet, in the play of that name, and the scene being dark, the ghost used to gradually rise through a trap on one side of the stage, and, after reciting his story, as he slowly made his way across the stage, went down a trap on the other side. Sometimes he could not find the trap, and was obliged to go off at

the wings, accompanied by derisive remarks from ribald persons in the auditorium, so it was felt some improvement must be made.

A doorway was accordingly arranged in a dark corner of the scene, and a piece of muslin tightly stretched over it. The surrounding scene was painted in the ordinary manner, so as to render it perfectly opaque; but the door on the muslin was lightly painted, so that the grain of the muslin was not closed, but remained transparent (Fig. 1).

The figure of the ghost being placed behind this door, and kept quite in darkness, was not visible to the audience, as the door being illuminated only from the green footlights,

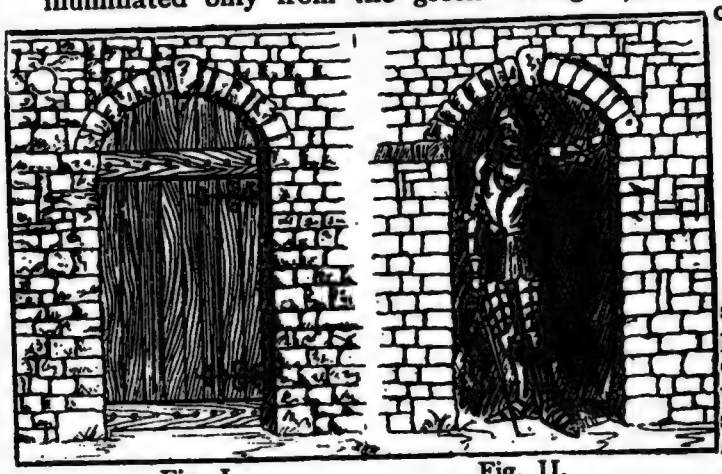


Fig. I. Fig. II.

appeared solid; but when at a given signal a powerful light was allowed to gradually diffuse itself over the apparition from the side, the door melted away and the figure was seen in relief (Fig. II.). These who have never seen this effect would be surprised at the realistic manner in which the figure apparently fades into space as the light at the back is reduced, and I strongly advise any who have to do with amateur theatricals or in organising shows for charity bazaars, to bear this effect in mind, as it is not generally known, and can be arranged by any one at very little expense. This is an example of an illusion which, although mechanical, yet owes its success to optical principles.

If we were to search through the length and breadth of the land, we should hardly find a man of middle age and ordinary intellectual capacity who had not heard of, if not seen, the great ghost illusion familarly known as "Pepper's Ghost"; and although many descriptions have been given of the means by which the ghost was raised, still many interesting details yet remain which the writer has never seen referred to in print. These details, which have been gathered from personal observation, will, appear as we proceed.

Most of us know that the effect is produced by reflection from the surface of a plate of plain glass; but although apparently so simple, yet there are certain laws in optics which must be obeyed in order to produce it in perfection.

It may be in the memory of many, that when first brought before the public by the popular professor, the ghost did not walk, it simply appeared in one spot, remained fixed there, and disappeared. In explaining the reason for this it is necessary to bear in mind the fundamental principle "that the angle of reflection is in all cases equal to the angle of incidence," or, in other words, "that the image will appear in the same spot and in same position behind the reflecting surface as the object occupies in front of it." To make this quite clear your attention must be called to the following diagram:—

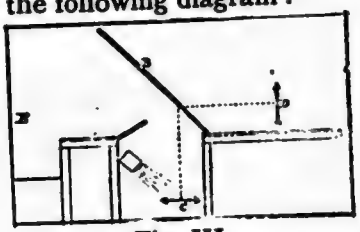


Fig. III.

At (AA) we have the stage: (B) being a large sheet of transparent glass, (C) is the actor representing the ghost, and (D) is the spot occupied by the spectre when the whole is viewed from (E). Now from this it will be seen that the living man was obliged to lie in a sloping position, sometimes, as in the diagram, flat upon his back, in order to keep his body in the correct position, and in consequence could not walk about, the only motion that could be given to the figure being a gliding one, obtained by wheeling the board on which the figure rested, from side to side.

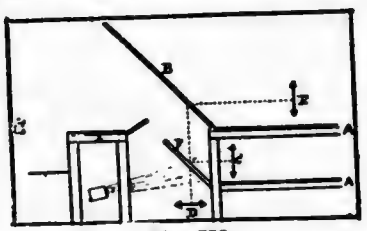


Fig. IV.

But shortly afterwards a great improvement was made; the living body was not directly reflected, but its reflection was reflected by means of a large sheet of silvered glass, as will be seen in diagram IV.

Here we have the stage and glass as before, but the actor (C) instead of being upon his back, stands boldly upright, his image being formed in its proper place, with relation to the large transparent medium (B) by the silvered glass (F). Thus it will be at once apparent that under these circumstances it was not the actor himself who was reflected, but his image, as it appeared at (D), which image occupied the same relative position to

the sheet of glass (B) as the actor himself did in the first diagram. This at once made a great difference. The ghost could roam about the stage, and could float through doors and windows, besides indulging in other little eccentricities with which apparitions are commonly credited.

One of the most popular entertainments illustrated by means of this illusion was Charles Dickens' "Christmas Carol," the tale of Scrooge and Marley, in which it will be remembered the ghost enters by the door, and after walking round the room, gradually fades through the window.

Another method of showing this ghost illusion consists in placing the glass reflector in a diagonal position across the stage, the figure to be reflected being placed behind one of the side wings. This method, although much more simple in its requirements than the original, blocks the stage to a much greater extent. Some very good effects have however been obtained by its means, and in an entertainment produced by its author, the late Dr. R. C. Croft, at the Royal Polytechnic Institution, on December 24th, 1874, and entitled the "Mystic Scroll," a cave scene, containing a life-size statue was introduced, which statue, after an incantation had been performed, awoke to life, opened its eyes, and amidst the low rumbling of thunder, and to the accompaniment of mysterious music, gave us the following recipe for growing rich—

"Mark me! He who each day one pin shall save,
Within the year a Fourpenny Piece shall have:
He, who to bed shall early go—is Wise.
Who would be Wealthy, he must early Rise!"

And with a loud clap of thunder the statue becomes once more inanimate. The information given is vague in the extreme, but the effect was produced as follows:—A sheet of glass was placed in a diagonal direction across the stage, standing perfectly upright, the left side (from the auditorium) being placed about ten feet back from the proscenium, the right edge being carried backwards until the plate stood at an angle of 45 degrees to a line drawn from side to side of the stage. Behind the right side wing was placed a screen covered with black velvet; having a hole cut in it (at about six feet from the ground) of the proper size to fit the face of the living object, when thrust through from the back.

The living face having been whitened and placed in this space was strongly illuminated by limelights from the flies at the opposite side, and the ghost of the face then appearing behind the glass, the statue was fixed in position so that the features of the plaster cast and the reflection of the features of the living object superimposed.

When this was arranged, it was always ready at a moment's notice. In actual exhibition the scene was illuminated by green lights, and the statue thus kept in partial darkness.

If we revert to the original position of the glass, inclining at the top towards the audience at an angle of 45 degrees to the stage, a very good effect can be obtained by dressing a number of figures as Imps or Crocodiles and allowing them to crawl about on a floor built in the position occupied by the actor (C) in Fig. III. The flat of the scene being placed about two feet in the rear of (D) the ghostly figures will appear to be walking up and down the walls of the apartment.

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(*To be Continued*).

NOTICES.

Editor—Theodore Brown, 342, Castle Street, Salisbury.

Publishers.—Heron & Co., 9 & 11, Tottenham Street, W.
Telegrams, "Heronicus London."
Telephone, 4777 Gerrard.

Wholesale Agents.—F. Brett, 5, Pilgrim Street, E.C.
John Heywood, Deansgate, Manchester.

Publishing Date.—1st of the month. All "copy," advertisements, notes, goods for review, etc., should be received by the 20th of month preceding issue.

Subscription.—Single Copies, 3d.
Twelve Months, post free, 4/-

Advertisement Rates.—Per insertion, discount for series.

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Illustrations.—We cannot undertake to re-draw or work up rough sketches for publication. When it is possible and desirable to use illustrations, use good photographs (original, of course) or pen drawings in good ink. The size of drawings should be two-thirds larger than size published. Bold lines reproduce better than fine. When illustrating an article with a number of diagrams, mark in order Fig. 1., Fig. 2. and so on, not close to the drawings and in black, but in light blue pencil on the margin and face side. Indicate on M.S. where these figures are to be inserted. Send all drawings or photographs flat and unfolded. We do not guarantee to return M.S. or Illustrations, unless postage is prepaid; and we do not hold ourselves responsible for their safe return.

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Queries.

Readers are requested to write each question as concisely as possible on one side of a separate sheet. Name and address to be given for reference. We are not responsible for the opinion expressed. Readers are invited to reply to Queries, and should state number and title of same.

6 **Colouring Cinematograph Films.**—Can any reader supply information from practical experience? Colours used and how applied.—"FILMS."

7 **Stereoscopic Two-Colour Slides.**—What practical advantage is got from the staining with potassium bichromete and the long exposure that results from it?—A.T.

8 **Effects.**—I have taken films—farmhouse and country scenes—and want to give them an effect of sunset and also twilight. Is it necessary to color the films, or can it be done by a transparent colored screen at the back of the gate?—J. SPOKES, Old Town, Horsham.

9 **Kerosine Light.**—In a recent *Photographic Journal* reference was made to a new Kerosine Light for use in photography, giving 2,000 c.p., and in a more recent issue of the *Magic Lantern Journal* reference was also made to this same light for projection purposes. Where is this light to be got, particulars and price? It is not wanted for general photographic work but for projecting purposes, that is, if this light has been adapted for this work. It is a Kerosine Light burnt with a mantle.—S. & Co.

10 **Winding Films.**—Can a reader give me a few pointers on winding and rewinding films?—Nov.

ANSWERS.

1 **Cinematograph Film.**—Weigh these up, and let them stand in a well-corked bottle, covered with amyl acetate in the proportion of 1 oz. of amyl acetate to every 4 gr. of films. The celluloid will dissolve leaving the gelatine intact.—S.B.

3 **Focus of Objective.**—Replying to H.N. Distance of lantern from screen to obtain a 10ft. disc with a 9in. objective should be 30ft. If the size of the room prevents H.N. from getting so far away, he will find it necessary to adopt as remedy one of two courses, either to use an objective of a shorter focus or be content to work with a smaller disc.—F.

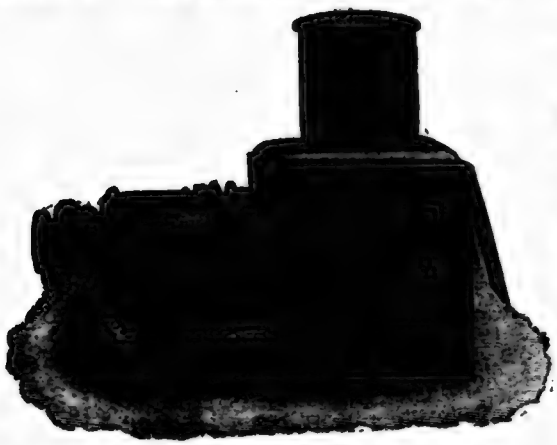
4 **Power of Lights.**—M. Molteni gives them as follows. His experiments were made with an ordinary lantern, in the stage of which was inserted a screen with an opening seven cm. square, similar to the marks used in mounting lantern transparencies. The distance of the lantern from the screen was so adjusted that the side of the enlarged image of the square measured one metre. The enlarged image was received on the Bunsen grease spot (commonly used in photometry), the surface of which, remote from the lantern, was illuminated by a lamp carefully standardised by means of a "Carcel" standard, burning forty-two grammes of oil per hour. The "Carcel" lamp is the standard of light in general use in France. It is equal to ten English standard sperm candles. The distance of the standard lamp from the screen was adjusted so as to obtain equality of illumination on each side, and the relative intensity of the various lights was calculated from the distances thus obtained. It will, of course, be understood that during the various trials the lantern was not moved from the position necessary to give an enlargement of one metre square. The following are the results obtained:—

Multiple wick oil lamps	1
Welsbach burner (2) without reflector	1
Acetylene—	
1 burner without reflector ...	1·06
2 burners without reflectors ...	1·70
3 ,, ,, ,, ...	3·20
4 ,, ,, ,, ...	4·10
5 ,, ,, ,, ...	4·50
Limelight—	
Oxycalcium (alcohol and oxygen) ...	5.80
Oxyhydrogen (coal gas and oxygen)	16·60
Oxyether (gasoline and oxygen) ...	18·50
Electric (continuous current)—	
Ordinary incandescent lamp 32 c.p. (?)	·68
Ordinary incandescent (vertical) 50 c.p. (?)	·93
Ordinary incandescent (horizontal) 50 c.p. (?)	·93
Focus lamp, 100 c.p.	3·82
Arc lamp, 7 ampères	39·03
,, 10 ,, ...	75·61
,, 12 ,, ...	86·50
,, 15 ,, ...	117·61
,, 20 ,, ...	160·80

The above results might, of course, have been expressed in terms of the Carcel unit, but the author is of the opinion that the table is likely to be more useful in the form in which an ordinary multiple wick oil lamp is taken as an approximate unit, since every one who has had the merest experience in lantern matters will be able to attach a tangible value to the figures when thus expressed; as, for instance, that the oxyhydrogen light is from sixteen to eighteen times more powerful than the paraffin lamp, or an arc light of seven ampères about twice the power of the oxyhydrogen light.

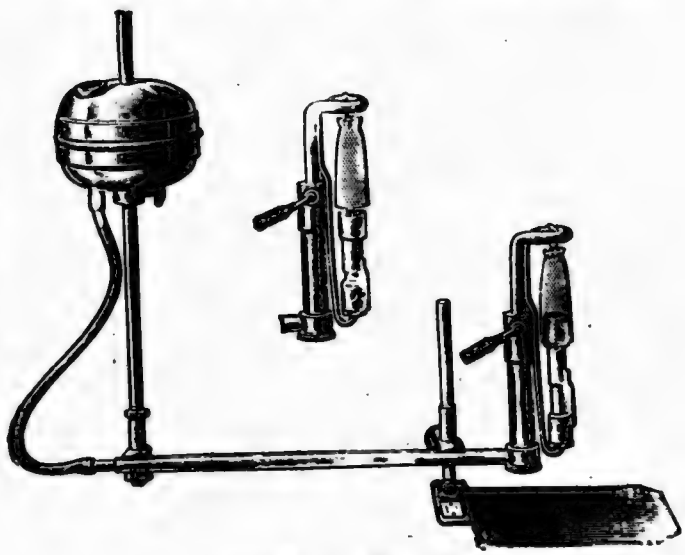
I have taken the above from the pages of the *British Journal Photographic Almanac*. Perhaps other readers will be furnishing the information as to the relative power of a Nernst-Paul compared with an arc.—H. SIMMONDS.

Messrs. Houghton's, Ltd., of High Holborn

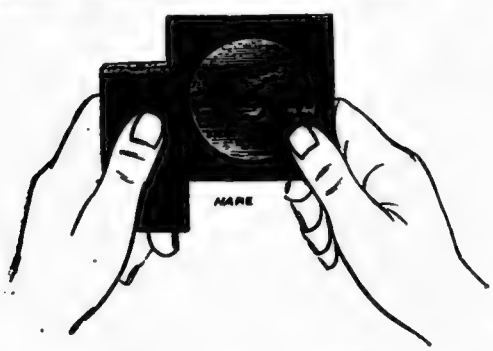


THE LEVIATHAN.

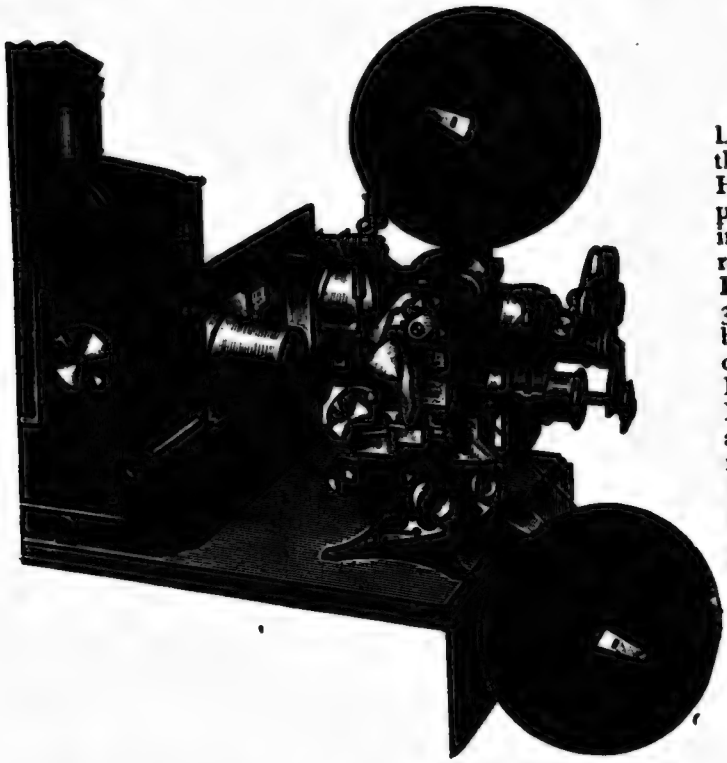
Have a number of excellent enlarging lanterns on the market this season, ranging in price, and varied in pattern to suit all customers. The "Victo" is especially worthy of note. It is constructed on thoroughly scientific principles, and will be found to fulfil the requirements for obtaining perfect results. Their "Sanderson" enlarging lantern has been designed for use in conjunction with the "Sanderson" Hand Camera, and enlargements can be made with the camera and lens with which the original negative was taken. Another lantern we call attention to is the "Leviathan," (*see illustration*), specially adapted for lecturers. It is of solid Russian iron, with brass stages, with the advantage of heavy double pinion objective and tinter slot. The front stages slide forward and take lenses of various focus. Amongst other good lines may be included their "Sol" Lamp (*see illustration*), for projection and enlarging, which is one of the best and most useful now on the market, besides having the advantage of being cheap. Houghton's, Ltd, also supply a novelty called the "M & C" Slide Binding Press. It consists of a wooden clamp lined with velvet. We are surprised how quickly the work of binding slides can be accomplished by using this ingenious contrivance. The binder is damped and placed on the edges of the slide and cover glass. The whole is then pushed between the jaws of the press as shown in the cut. After being kept in this position for a few seconds, the pressure on the clamp may be released and the slide slipped out at one end, when the binder is neatly smoothed into position.



THE SOL LAMP.



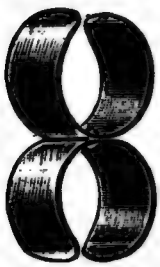
SLIDE BINDING PRESS.



Brewster House Novelties.

Amongst the many houses devoted to the Lantern trade, perhaps none is more popular than that presided over by Mr. W. C. Hughes, in Mortimer Road, Kingsland. The premises are packed with everything pertaining to the Lantern industry, and a point that recommends this establishment is that Mr. Hughes is a specialist and expert, with over 30 years' practical experience. It is impossible in one review to include all the specialities on view, but we draw attention to Hughes' Patent Combination Lantern and Bio-Pictorescope, an illustration of which we append. Amongst its many distinctive features may be mentioned the registering of film in a film cage, and tinting film whilst running. The optical systems are absolutely perfect. Two sets of condensers are employed, and the reverser is fitted with separate piston plungers, making reversing and non-reversing instantaneous and certain. These are a few of the many advantages of this machine, which should certainly be seen by intending exhibitors.

Camera House, Farringdon Avenue.



Messrs. Butcher & Son opportunely send us a number of good things for lantern enthusiasts. Small in themselves they are essential to a perfect equipment, and all go to saving time, and assist in producing perfect work. The clips as illustrated have long been wanted for holding in position flexible tubing and will prove a boon to those who have had trouble with this awkward material. Slide making with their novel appliances will lose much of its tediousness. For instance, the "Primus" Lantern Masks are neatly boxed, and also in detachable books. They contain squares, circles, cushions, domes, and other assorted shapes. They also have boxes of masks for making special openings to any size. Their "Notice" Lantern Plates should be carried by every exhibitor as special announcements can be written upon the prepared surface

PRIMUS MASKS.

ADAPTABLE MASKS

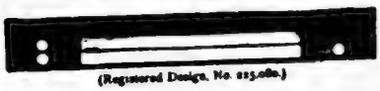
with ordinary writing ink. The improved tinted cover glasses, with a selection of cloud effects are most artistic and will lend a charm to any picture, and the combination cover glass and spot binder we have proved by our own use to be a necessity. For those who prefer to use their own glasses they have boxes of binding strips with space for title and spots—in fact the whole range of their noveities betokens enterprise that cannot but command success.

Messrs. Thorn & Hoddle's Acetylene Generator.

It seems almost unneccessary to draw attention to the well-known "Incanto" Generator, we would, however, remind lanternists who are using acetylene gas, that in the "Incanto" they will find a very satisfactory means of supplying the illuminant. Our own experience has been that providing cleanliness is always borne in mind the "Incanto" works regularly and without smell.

Mr. Walter Tylar, High Street, Aston, Birmingham.

In using Mr. Tylar's Opaque Black Ink, with an ordinary steel pen, we have found it to run smoothly, dry rapidly, and retain the sharpest outline, without blurrs, when used on this firm's micro-grain diagram plates, The glasses may be placed over illustrations, and used in the same manner as tracing paper; hence, for lecturers who have to prepare diagrams at a short notice, or for secretaries who wish to make impromptu announcements by projection, both will be eminently useful. It is worthy of note that the same glasses may be used over and over again by washing off the old diagrams. Mr. Tylar is also supplying, in paper and linen, Hot-water Lantern Slide Binders, prepared with a special cement for sticking to the glass, without fear of springing off during the drying process.



(Registered Design. No. 223,080.)

Messrs. T. S. Whitehall & Co., of Curzon Street, Nottingham.

Since our last issue we have had an opportunity of using samples of Nottingham Hard Limes, sent us by these makers. They are beautifully turned and true-bored, and we found them withstand a high pressure of gas for a long period without showing signs of falling to pieces, often the case with inferior goods. In recommending these lime cylinders to the exhibitor, we do so with perfect confidence. The best goods are the cheapest in the long run, and this fact especially applies to cylinders for the lantern. Nothing, save the sudden extinguishing of the light, is more annoying to an operator than to find his lime crumbling to pieces during a show. Messrs. Whitehall & Co. having adopted the policy of dealing direct with the consumer are offering their high-class goods at wholesale prices.

R. R. Beard, 10, Trafalgar Road, S.E.

Everyone interested in optical lanterns and their accessories should keep by them the lists of this old-established firm. They are brim full of good things and it is therefore difficult to particularise, but the range of Russian iron lanterns with which the list starts shows a wonderful variety of features and prices. Mr. Beard has just produced a new pattern of electric lamp in conjunction with the Nernst burner, adapted for use in any form of optical or enlarging lanterns. A new cheap pattern of arc lamp is also well worth attention, being thoroughly efficient for all classes of work and easily adjustable. Beard's self-centreing eclipse single lantern slide carrier is almost two well known to require notice, as are their automatic regulators, guages, connectors and other appliances which are now by-words in the trade.

The Walturdaw Company, Ltd.

One is always glad to record success and the fact that this Company has again outgrown its premises and has to seek fresh quarters shows that their enterprise is meeting its reward. They will still retain their old premises and in the new will put down a plant for reproducing film subjects to be known as the "Walturdaw Films." Every known film on the market can now be hired from them.

W. L. Parkinson, Ltd., Liverpool.

Showmen with single lanterns have often wished for a slide changer or carrier to give dissolving effects and the above firm have now produced a "Merito" lantern dissolving slide carrier, which is well made in polished mahogany with brass guiding and withdrawing frame. This carries the slides in on the side nearest the lens and when focussed the second slide is carried in. By pressing the lever hook out of action the record slide is presented and the first is withdrawn. It has the advantage of cheapness, adaptability and simplicity and should be greatly in demand.

Good Comic Film Subjects.

The Sheffield Photo Co, of 95, Norfolk Street, are making a good reputation for themselves by a constant supply of new comic film subjects which they are turning out. Latest additions are "Bertie's Courtship," and "Tramps and Washerwoman." The first named is packed with life of an exciting character and is well arranged. The second is an excellent production. The surrounding scenery being very pretty, and the plot is humorous in the extreme; and to these qualifications may be added the fact that the photographic standard is high. We understand that the Sheffield Photo Co. also make a speciality of Local Work. They promise another new film in December entitled "A Soldier's Romance."

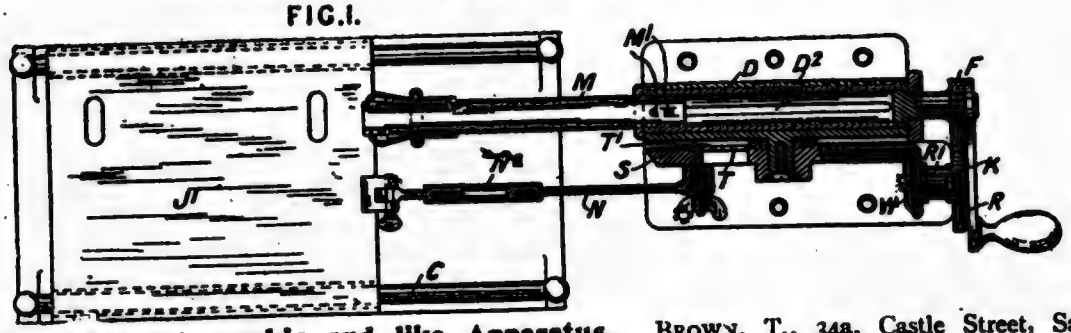
Animation of the operator who finds, an hour before the show, that his films have miscarried.

SPEAKING of the various forms of entertainment at this season of the year, the *Queen* says :—"Possibly the one perfectly satisfactory entertainment is a cinematograph, which actually does delight all ages. But unfortunately, a cinematograph with at all an adequate supply of films adds very largely to the expense, and where expense has to be considered one can rarely be provided. The cinematograph has also had the unfortunate effect of sadly lessening the popularity of that old favourite, the magic lantern, which is not unfrequently to be found within the house itself, and but for the pretensions of its more attractive rival, would renew its youth and charms at the cost of the hire of a few dozen slides. But only very young children give our poor old friend a welcome now."

ONE of the attractions at the recent conversazione of the University of Birmingham was a lantern lecture by Mr. J. Dencer Whittles on "Life in an unseen World."

PATENTS.

FIG. I.



12,997. **Kinematographic and like Apparatus.** BROWN, T., 34a. Castle Street, Salisbury June 10th. Relates to apparatus for use with a kinematographic camera, by which the camera is oscillated laterally between successive exposures through such a distance that the two pictures when combined, will give a stereoscopic effect. The camera rest J1 is oscillated on slides C by the connecting rod N, actuated by the bolt T1 on the face of the bevel-wheel S, the spindle of the camera being simultaneously rotated by the tube M, sliding telescopically in the spindle D. Pins M1, on the tube M, slide in the slot D2 of the spindle D, thus ensuring the rotation of the tube M with the spindle, which is driven directly by the handle K. The bevel-wheel S is connected by bevel-wheel W, spindle R1, and cog-wheel R, which gears with wheel F on the spindle D. The bolt T1 is adjustable in a radial shot T in wheels S, and the length of connecting rod N can be altered by screwing within the tube N2. The wheels F, R can be replaced by wheels of a different number of teeth.

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— MAKERS OF THE —

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PERFECTLY FIREPROOF.

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ARE
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DEALERS IN
EVERYTHING APPERTAINING
TO ANIMATED
PHOTOGRAPHY.

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Automatic Shutter.
Noiseless Action.
Easy Running.
No Experts required to Operate.
Re-winds 2000 feet of Films.
Moving Gate and Moving Light.
Solid Construction.
You have it on Approval.
Reproduces the picture as it should be
An out-and-cut Practical Machine, and
A Marvel of
Simplicity.

That's the
'Walturdaw'

Reasonable in
Price too.

KINDLY LET US
HAVE YOUR
ORDER.

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3, Dean Street, High Holborn, London, W.C.

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Miscellaneous Advertisements.

Professional Announcements.

LECTURERS requiring a few good slides (rather than rubbish in quantity), should try Wilkinson, 15, Holmeside, Sunderland. Established 1859. Wet plate Collodion Transparencies from owner's negatives, and best colouring.

Situations Wanted.

CINEMATOGRAPH Operator seeks re-engagement, willing to travel home or abroad, highest references.—Horace J. Smith, 1, Sandown Terrace, Dews Road, Salisbury

Addresses Wanted.

ADDRESS Wanted of Mr. and Mrs. Thomson, travelling Lecturers to ladies.—Address, Oxygen, c/o H. B. Hurst, 22, Sandygate, Derby.

WANTED.—Addresses of Slide Painters and Artists, and Slide Manufacturers, also makers of Wood Slide Frames, Boxes and other accessories.—Commercial, c/o O. L. & C. Journal, 9, Tottenham Street, W.

Trade Announcements.

BEARD'S Eclipse Lantern Slide Carrier for Sale. Perfect condition, 6/-; usual price 10/6—H. SMITH, Sandown Terrace, Dews Road, Salisbury.

LANTERN Slides, Views, Sunsets, Lightning Flashes, Churches, Abbeys, Cathedrals, Flowers, Animals at the Zoo, Men of War, etc., 6/- per dozen. First-rate Slides at a low price. Send for lists.—JOHN STABB, Babbacombe Road, Torquay.

GAUMONT'S Chrono Projector, series VD, complete with sliding base perfect condition. £10 or near offer.—HAROLD BARR, Hillfoot Hey, Woolton, Liverpool.

WANTED. Second-hand Lantern Slides, in sets (travel, etc.), with readings.—Particulars to BAIRD, 39, Lothian Street, Edinburgh.

PRIMUS MATAGRAPH, list price £22 10/-, to clear at £7 10/-; also large number of good Second-hand Films. Approval. Sale or exchange.—MOODY BELL, Colonnade, Cheltenham.

WANTED Hand-painted Slides of Fairy Tales. Cinderella, Blue Beard, Jack and the Beanstalk, &c., as used by Professor Malden. What offers.—3, Astley Street, Old-Kent-Road, S.E.

WANTED. Good Man for Taking Pictures. Must be able to develop and print. Only first-class men need apply, to WALTURDAW COMPANY, LIMITED, 3, Dean Street, Holborn, London, W.C.

EVERYTHING appertaining to Animated Photography obtainable from THE WALTURDAW COMPANY, LIMITED, 3, Dean Street, Holborn, London, W.C. Sale or Hire, Cash or Payments.

DISSOLVING Effect Slides, first-class, framed, wanted also Religious and Temperance Stories, Lecture Sets, etc. Good prices given, if suitable.—Effect, c/o O. L. & C. Journal, 9, Tottenham Street, W.

LANTERN Slides, second-hand, plain photographic 3½d. each, well painted, 4½d. Life Models, Religious, Picture Hymns, Effects, Mottoes, etc., lists free. We make special slides from photos, negatives, etc. for customers, or colour their slides. Good work, low price.—T. Wing, 12. High Street, Chesterton, Cambridge

BUTCHER'S Quarter-plate guinea Hand Camera, perfect, sell for 10/6.—Box 102, Publishers, O. L. & C. J., 9 & 11, Tottenham Street, W?

A QUANTITY of good Films for sale, cheap, only used few times, particulars free.—Box 108, Publishers, O. L. & C. J., as above.

LANCASTER'S "Le Meritoire," Quarter-plate Camera, hardly scratched, perfect with double dark slide, list price 31/6, sell for cash, 15/-.—Box 110, Publishers, O. L. & C. J., as above.

MAHOGANY, metal lined Lecturer's Lantern, splendid condition, complete with condenser, lamp, objectives; Limelight can be used. Cost £4 10s., sacrifice for £2.—Box 70, Publishers, O. L. & C. J., as above.

FOR SALE, Butcher's No. 787 Cinematograph Lantern, new, with special photo bands, will take 10/6.—Box 80, O. L. & C. J., as above.

AUTOMATIC id in the Slot Stereoscope, cost £4, cash £2 2s. Complete as new, suitable for hairdresser's saloon, etc.—Box 81, Publishers, O. L. & C. J., as above.

GAUMONT'S Chrono Cinematograph Camera for sale, complete with tripod and two extra magazines. particulars sent.—Box 90, Publishers, O. L. & C. J., as above.

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These Limes are guaranteed to be turned and drilled perfectly true, from the highest grade of Lime that can be obtained. For quality, workmanship and price we defy all others. Cinematograph Limes a speciality. Packed in single tins if desired. We have no connection with any other firm. Wholesale and Retail.

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It contains information on every phase of the subject, and will help you in practical work. Illustrated with upwards of 100 line drawings and 16 full page plates. Price 3/6 post free.

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Obtainable from—The Manager, The Stereoscopic Supply Stores, 34a, Castle Street, Salisbury.

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INCANDESCENT LIME CYLINDERS

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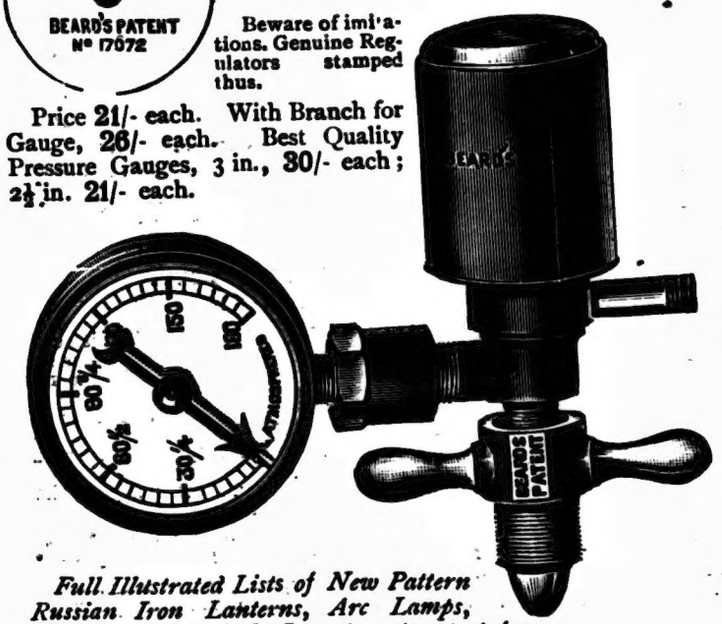
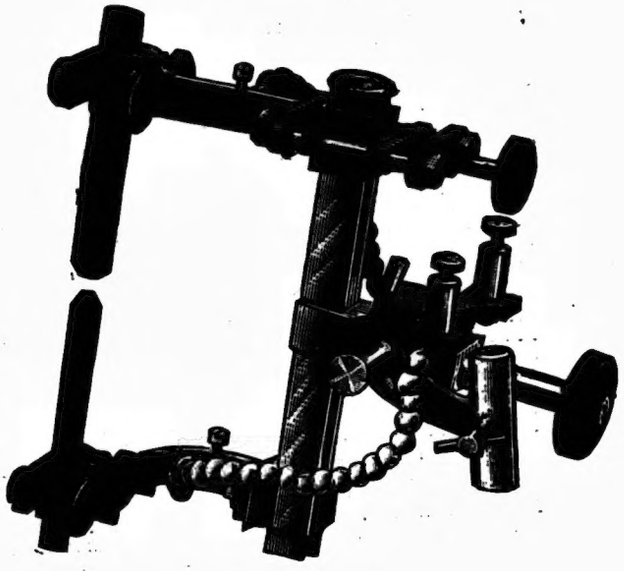


New Pattern Arc Lamp.

Price from £1 17 6 each.



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FILMS. S. P. C. FILMS.

— NEW COMICS. —

No. 156. "TRAMPS & WASHERWOMAN."

Weary Alfred knocks at the door and asks for alms, but is indignantly refused. He departs, and finds a haven of rest under the bushes in the garden, where the clothes are drying. Tramp No. 2, by name Lazy Larry, knocks at the house door and asks for assistance. He receives such an indignant refusal that he vows revenge. Going into the garden he throws dirt and mud all over the clean clothes on the line. The wrath of the washerwoman on her arrival is very apparent, and seeing innocent Weary Alfred fast asleep, naturally assumes he is the culprit. She throws a pail of soapy water over him, grabs hold of his collar, dips him into the tub of soapy water, and in a vehement manner inflicts severe punishment on poor Alfred. Alfred emerges from the tub covered with soap and water, very indignant at the undeserved treatment which he has received.

VERY LAUGHABLE SUBJECT.

Length 140 ft., Price £3 10s. Code Word, "Wash."

No. 157. "A PICNIC DISTURBED."

Two loving couples are off for a day's picnic, when an undesirable person, a dandy young fool, tries to force his company on the joyful party, which is resented in a forcible manner. He tries to seat himself on the back of the carriage but is promptly thrown off. The party stop at a country inn for refreshment, and during the absence of the two gents Bertie attempts a flirtation with the two ladies. This is very resentful to them; they throw him over the back of carriage and turn a syphon of soda upon him.

During a picnic on the grass, Bertie again turns up, much to the annoyance of the party, who throw him into the stream. On the return home Bertie jumps to the back of the carriage. His company is becoming so unbearable the two gents of the party descend from the carriage and tie him with rope to the back axle of the carriage. The carriage starts off, poor Bertie having to run backwards way, tied to the carriage, cutting a very undignified figure.

A SURE SUCCESS.

Length 175 ft., Price £2 7s 6d. Code Word, "Picnic."

A Great Success.

No. 154. "BERTIE'S COURTSHIP."

SCENE 1.—A pretty young lady is seated in a quiet spot when Bertie arrives. Bertie thinks she is a pretty little thing and decides to mash her. She condescends to acknowledge his salute and he at last persuades her to take a stroll.

SCENE 2.—Everything progresses favourably until Katie (that is the sweet creature's name) catches sight of a male friend of hers. She goes to speak to him. This agitates Bertie and he remonstrates with the gent. The gent throws Bertie to the ground.

SCENE 3.—Bertie is persistent and ultimately Katie looks favourably on his suit. He proposes in the garden and is accepted Katie's little brother has witnessed this scene. When Bertie sits down he goes to back of the seat and pulls it over, landing Bertie on his back among the nettles.

SCENE 4.—Katie's home. Bertie comes to ask Pa's consent, but Pa is furious and kicks him down the steps. Katie begs for mercy but Papa's dog also dislikes Bertie and chases him over the garden wall.

This last scene is most ludicrous and makes a most laughable finish to a really good comic.

Length 100 ft., Price £2 10s. Code Word, "COURTSHIP"

5% Discount Cash with Order.

The above film is having an enormous sale; every showman should have a copy.

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The Midland and Northern Film Centre.

95, Norfolk Street, Sheffield.

Telegrams—"Photo Co." Sheffield.

London Agents: Messrs. BUTCHER & SON, Farringdon Avenue, E.C.; and most Film Dealers

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PRODUCES THE

Brilliant Acetylene Light

WITH ABSOLUTE SAFETY!

Its great success has been due to its portability, its certainty, and its simplicity. It is the smallest generator for supplying a large amount of gas yet made. Its height is 13½ in. and largest diameter 7½ in, and yet it will produce gas to keep a powerful double jet going for two hours. It is quite automatic in its action, and don't play pranks with the operator. It can be turned on and off at will, and left charged up ready for use.

Its price is £2 2s. which includes all necessary for the lantern. Of all Dealers or direct from

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Pho. Catalogue, 360 pages, 600 cuts, post free.
Pamphlet on Acetylene post free if you name this paper.

MAGIC LANTERNS & SLIDES.

Bioscopes from £3 3s. For Bazaars, &c.

INCOMPARABLE.

Right up-to-date. Every Improvement

Mr. HUGHES (Manufacturer and Specialist, 30 years established), gives the cheapest and best for money. His **TRIPLE BIUNIAL ELECTRIC, LIMELIGHT AND ACETYLENE LANTERNS AND PERFECTED BIOSCOPES** are a revelation.

HUGHES' MARVELLOUS FINEST DOUBLE PAMPHENGOS

Elegant Brass Fronts, 4½-in. Condensers, High-class Lenses, 2¾-in. dia., Rackwork, &c. and Pamphengos Lamp, giving 12-ft. brilliant Pictures. 4,000 sold.

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HUGHES'

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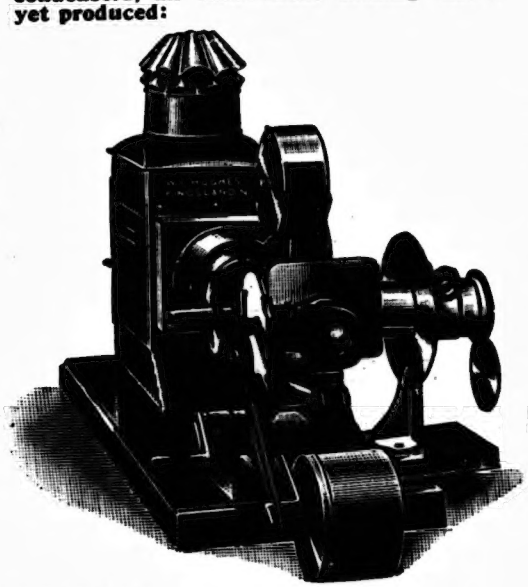
Reverses, registers and tints film while it is running, perfect Automatic light cut-off, new arrangement of lantern, double sets of condensers, an innovation, nothing like it yet produced:



Combined Lantern and Bioscope *Wonderful Value.* **£11 11s.**

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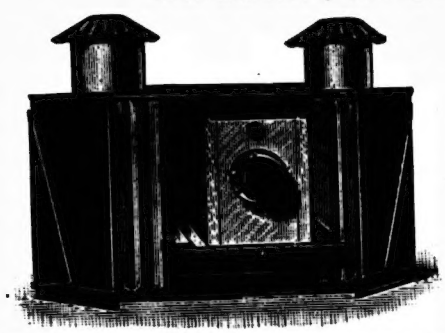

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